



## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.13 @ 15:39:00

End Date: 2013.02.13 @ 21:06:20

Job Ticket #: 51589                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:38:15



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51589

**DST#: 1**

Test Start: 2013.02.13 @ 15:39:00

## GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:26:10

Time Test Ended: 21:06:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3144.00 ft (KB) To 3165.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3165.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844 Outside**

Press @ Run Depth: 19.91 psig @ 3145.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.13 End Date: 2013.02.13

Last Calib.: 2013.02.13

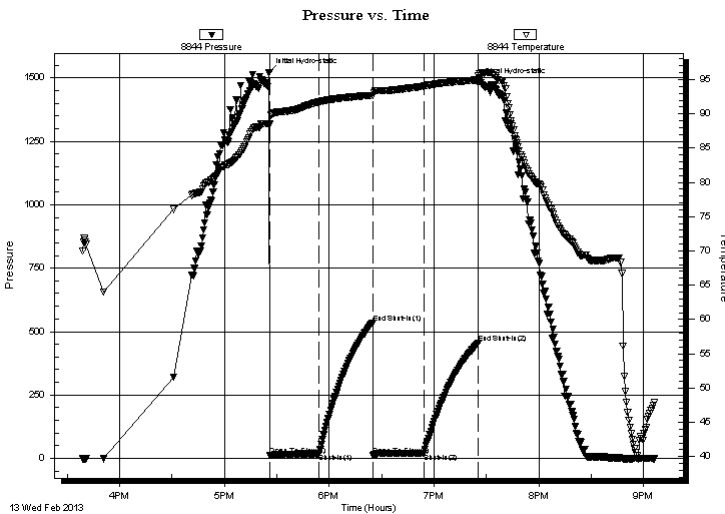
Start Time: 15:39:05 End Time: 21:06:20

Time On Btm: 2013.02.13 @ 17:25:40

Time Off Btm: 2013.02.13 @ 19:25:30

**TEST COMMENT:** 30 - IF- B.O.B. instantly.  
30 - IS- 1/2" return.  
30 - FF- B.O.B. instantly. Started dying off at 20 Minutes  
30 - FS- Surface blow back.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1521.68	88.33	Initial Hydro-static
1	11.49	88.49	Open To Flow (1)
29	18.68	91.71	Shut-In(1)
60	535.10	92.69	End Shut-In(1)
60	12.96	92.69	Open To Flow (2)
89	19.91	94.03	Shut-In(2)
120	455.16	94.94	End Shut-In(2)
120	1482.87	95.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud w ith spots of oil, 100%M	0.21
0.00	583' of G.I.P.	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

8-16s-17w Rush KS

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Dow ning

Test Start: 2013.02.13 @ 15:39:00

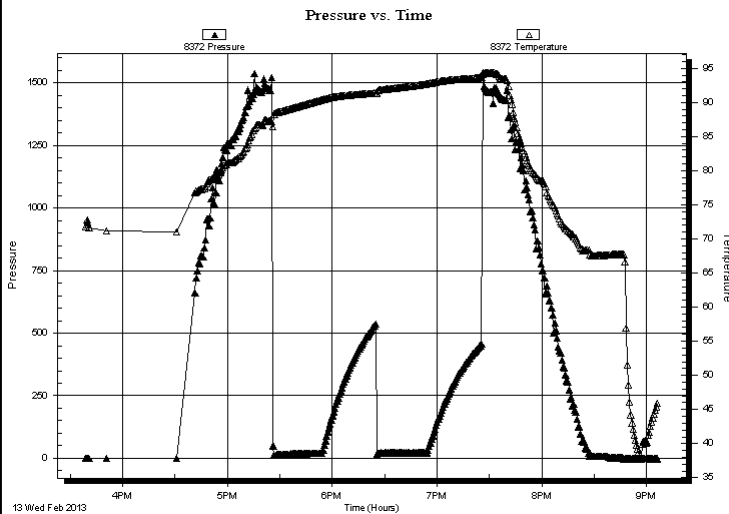
### GENERAL INFORMATION:

Formation: **Platts mouth**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 17:26:10  
 Tester: Cody Bloedorn  
 Time Test Ended: 21:06:20  
 Unit No: 39  
**Interval: 3144.00 ft (KB) To 3165.00 ft (KB) (TVD)**  
 Reference Elevations: 1973.00 ft (KB)  
 Total Depth: 3165.00 ft (KB) (TVD)  
 1968.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

### Serial #: 8372 Inside

Press @RunDepth: psig @ 3145.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.13 End Date: 2013.02.13 Last Calib.: 2013.02.13  
 Start Time: 15:39:05 End Time: 21:06:29 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 - IF- B.O.B. instantly.  
 30 - IS- 1/2" return.  
 30 - FF- B.O.B. instantly. Started dying off at 20 Minutes  
 30 - FS- Surface blow back.



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud w ith spots of oil, 100%M	0.21
0.00	583' of G.I.P.	0.00

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Dow ning

Test Start: 2013.02.13 @ 15:39:00

## Tool Information

Drill Pipe:	Length: 3126.00 ft	Diameter: 3.80 inches	Volume: 43.85 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	44000.00 lb
			<u>Total Volume: 44.00 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	34.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3144.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	21.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3124.00	
Shut In Tool	5.00			3129.00	
Hydraulic tool	5.00			3134.00	
Packer	5.00			3139.00	21.00 Bottom Of Top Packer
Packer	5.00			3144.00	
Stubb	1.00			3145.00	
Recorder	0.00	8372	Inside	3145.00	
Recorder	0.00	8844	Outside	3145.00	
perforations	17.00			3162.00	
Bullnose	3.00			3165.00	21.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>42.00</b>				



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51589

**DST#: 1**

ATTN: Allen Downing

Test Start: 2013.02.13 @ 15:39:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.94 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
35.00	Mud with spots of oil, 100%M	0.209
0.00	583' of G.I.P.	0.000

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

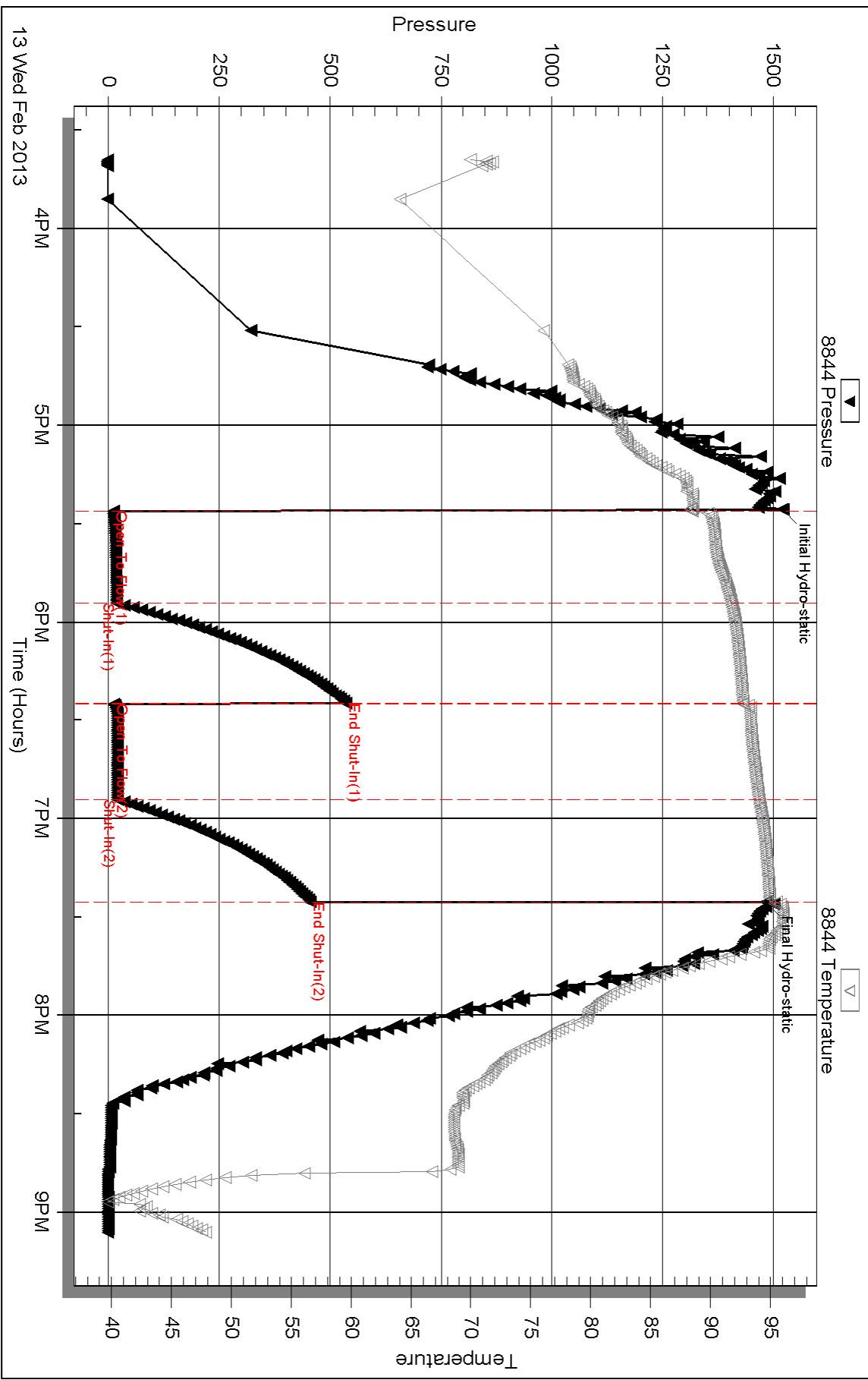
Serial #: 8844

Outside Downing Nelson Oil Co Inc

R Berans Unit #1-8

DST Test Number: 1

### Pressure vs. Time



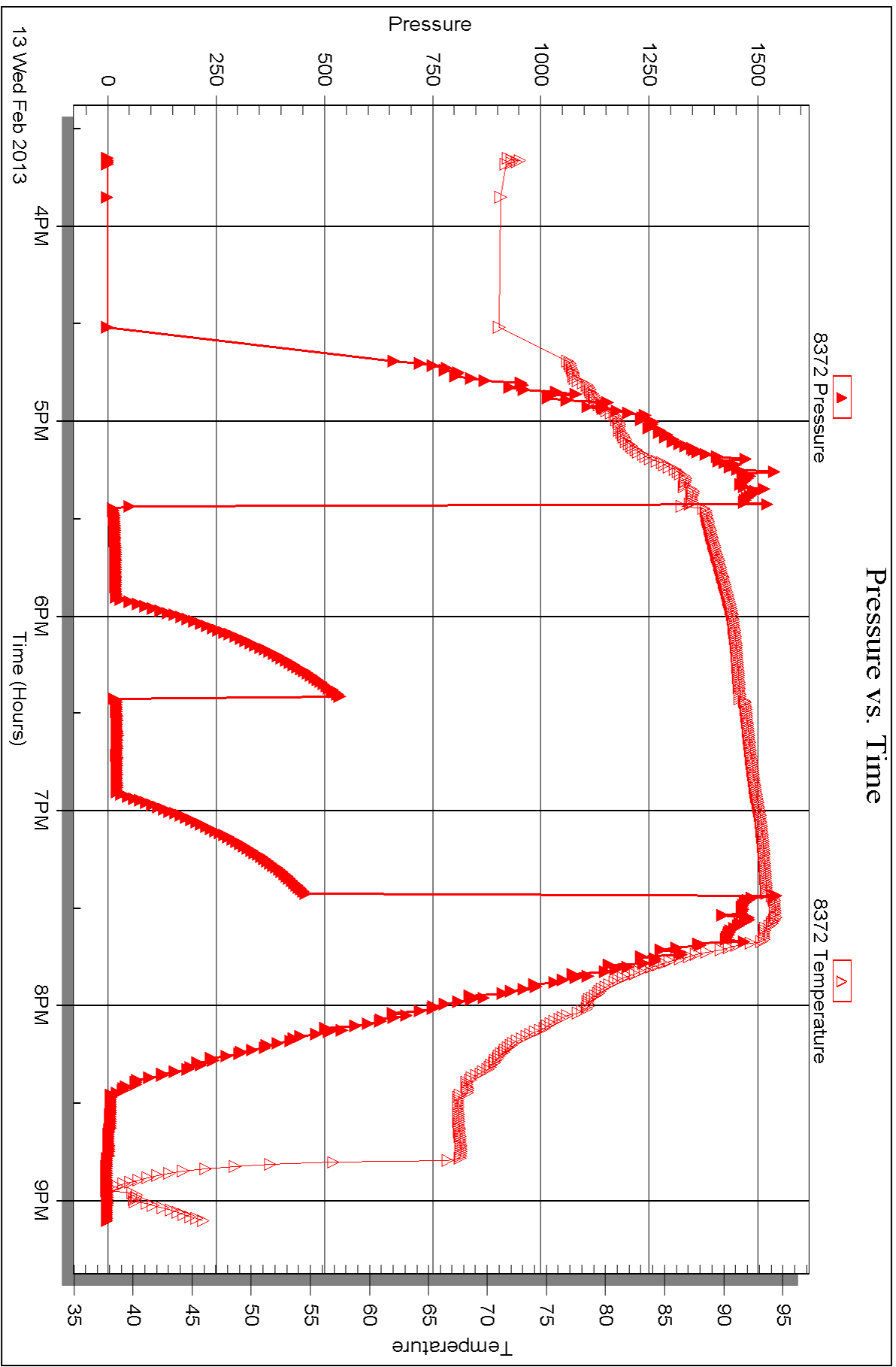
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.14 @ 08:15:00

End Date: 2013.02.14 @ 14:13:39

Job Ticket #: 51590                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51590

**DST#: 2**

Test Start: 2013.02.14 @ 08:15:00

## GENERAL INFORMATION:

Formation: **KC "C-D"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 10:32:00  
 Tester: Cody Bloedorn  
 Time Test Ended: 14:13:39  
 Unit No: 39  
 Interval: **3275.00 ft (KB) To 3322.00 ft (KB) (TVD)**  
 Reference Elevations: 1973.00 ft (KB)  
 Total Depth: 3322.00 ft (KB) (TVD)  
 1968.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

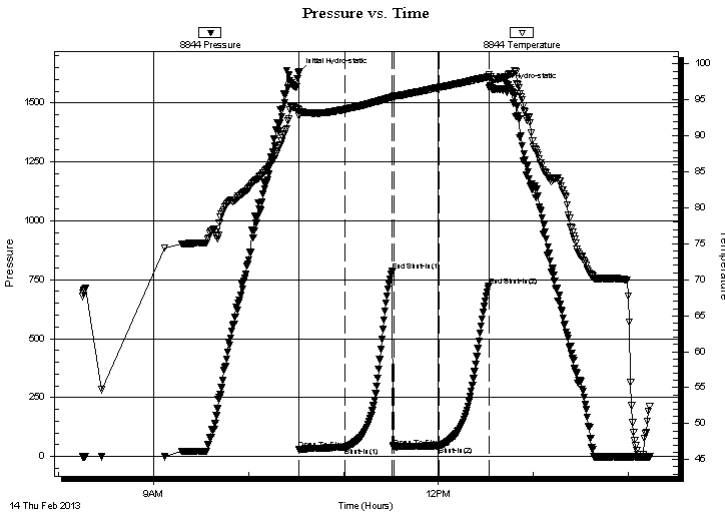
## Serial #: 8844

**Outside**

Press @ Run Depth: 44.87 psig @ 3311.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.14 End Date: 2013.02.14 Last Calib.: 2013.02.14  
 Start Time: 08:15:05 End Time: 14:13:40 Time On Btm: 2013.02.14 @ 10:31:50  
 Time Off Btm: 2013.02.14 @ 12:32:09

TEST COMMENT: 30 - IF- 2" blow .  
 30 - IS- No return  
 30 - FF- 3/4" blow  
 30 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.84	93.58	Initial Hydro-static
1	28.19	92.86	Open To Flow (1)
30	38.33	93.70	Shut-In(1)
59	786.85	95.39	End Shut-In(1)
60	39.69	95.31	Open To Flow (2)
89	44.87	96.74	Shut-In(2)
121	721.86	98.22	End Shut-In(2)
121	1565.92	98.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	Mud, with spots of oil, 100%M	0.21

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Downing

Job Ticket: 51590

**DST#: 2**

Test Start: 2013.02.14 @ 08:15:00

## Tool Information

Drill Pipe:	Length: 3251.00 ft	Diameter: 3.80 inches	Volume: 45.60 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	47000.00 lb
			<u>Total Volume: 45.75 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	43000.00 lb
Depth to Top Packer:	3275.00 ft			Final	43000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	47.00 ft				
Tool Length:	68.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3255.00	
Shut In Tool	5.00			3260.00	
Hydraulic tool	5.00			3265.00	
Packer	5.00			3270.00	21.00 Bottom Of Top Packer
Packer	5.00			3275.00	
Stubb	1.00			3276.00	
Perforations	2.00			3278.00	
Change Over Sub	1.00			3279.00	
Drill Pipe	31.00			3310.00	
Change Over Sub	1.00			3311.00	
Recorder	0.00	8372	Inside	3311.00	
Recorder	0.00	8844	Outside	3311.00	
perforations	8.00			3319.00	
Bullnose	3.00			3322.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51590

**DST#: 2**

ATTN: Allen Downing

Test Start: 2013.02.14 @ 08:15:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	Mud, with spots of oil, 100%M	0.209

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

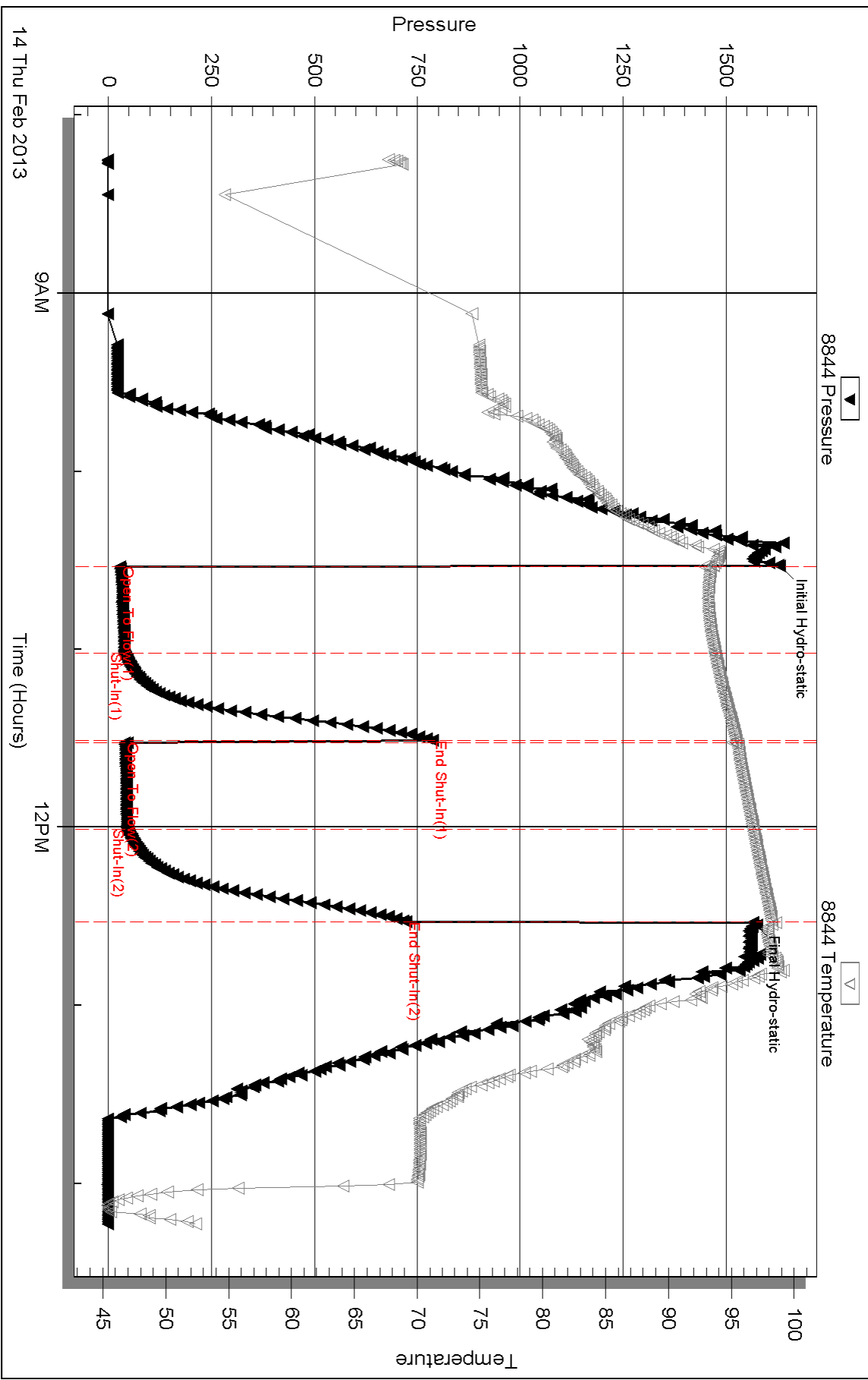
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



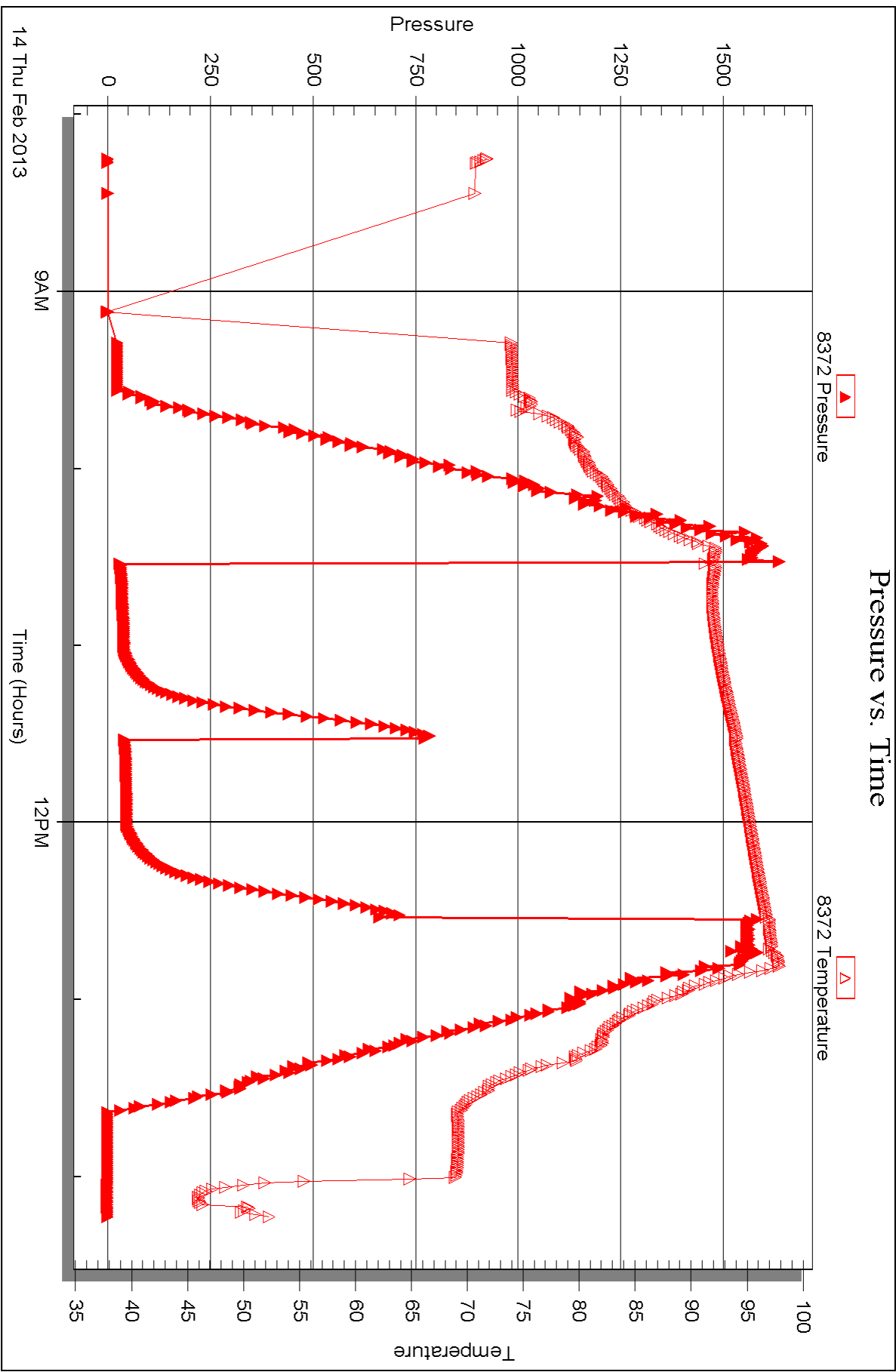
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.15 @ 00:56:00

End Date: 2013.02.15 @ 07:09:39

Job Ticket #: 51591                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:36:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51591

**DST#: 3**

Test Start: 2013.02.15 @ 00:56:00

## GENERAL INFORMATION:

Formation: **KC "H-K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:35:50

Time Test Ended: 07:09:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3380.00 ft (KB) To 3464.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3464.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8844 Outside**

Press @RunDepth: 55.43 psig @ 3447.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.15

End Date:

2013.02.15

Last Calib.:

2013.02.15

Start Time: 00:56:05

End Time:

07:09:40

Time On Btm:

2013.02.15 @ 02:35:40

Time Off Btm:

2013.02.15 @ 05:39:00

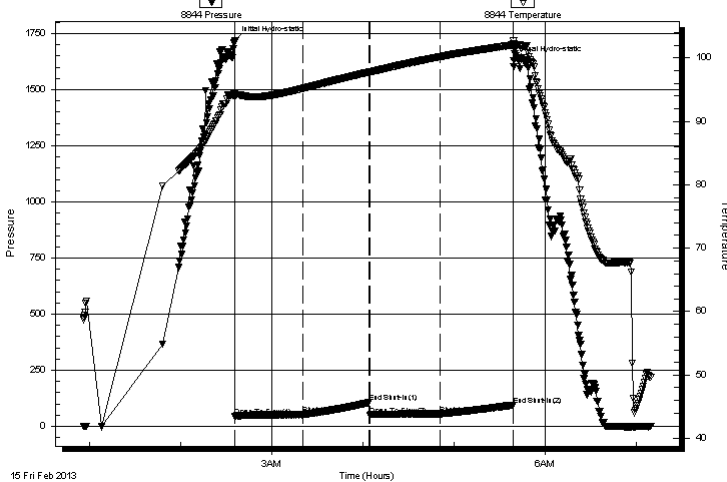
TEST COMMENT: 45 - IF- 2 1/4" blow .

45 - IS- No Return

45 - FF-3/4" blow

45 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1719.78	94.47	Initial Hydro-static
1	45.61	93.88	Open To Flow (1)
45	52.25	95.17	Shut-In(1)
89	106.37	97.75	End Shut-In(1)
89	50.29	97.74	Open To Flow (2)
135	55.43	100.18	Shut-In(2)
184	95.01	102.04	End Shut-In(2)
184	1630.00	102.75	Final Hydro-static

## Recovery

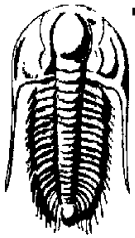
Length (ft)	Description	Volume (bbl)
30.00	Mud w ith spots of oil, 100%M	0.15

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





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# DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 00:56:00

## GENERAL INFORMATION:

Formation: **KC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:35:50  
 Time Test Ended: 07:09:39

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39

Interval: **3380.00 ft (KB) To 3464.00 ft (KB) (TVD)**  
 Total Depth: 3464.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

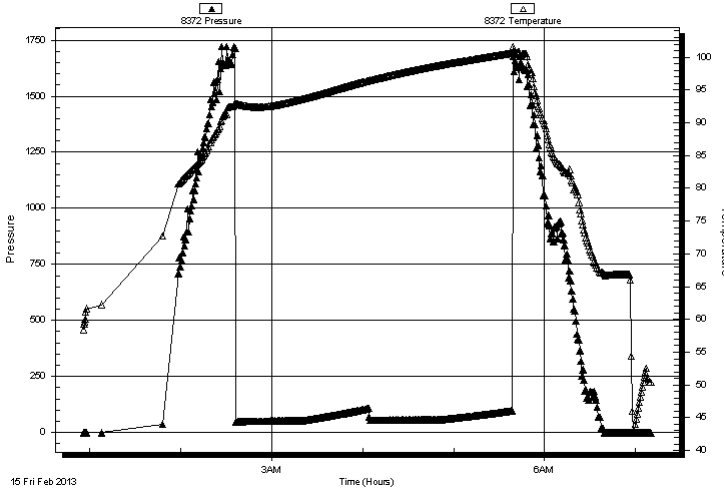
**Serial #: 8372**

**Inside**

Press @ Run Depth: psig @ 3447.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.15 End Date: 2013.02.15 Last Calib.: 2013.02.15  
 Start Time: 00:56:05 End Time: 07:09:59 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 45 - IF- 2 1/4" blow .  
 45 - IS- No Return  
 45 - FF-3/4" blow  
 45 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud with spots of oil, 100%M	0.15

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 00:56:00

## Tool Information

Drill Pipe:	Length: 3346.00 ft	Diameter: 3.80 inches	Volume: 46.94 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 48000.00 lb
			<u>Total Volume: 47.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3380.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	105.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3360.00	
Shut In Tool	5.00			3365.00	
Hydraulic tool	5.00			3370.00	
Packer	5.00			3375.00	21.00 Bottom Of Top Packer
Packer	5.00			3380.00	
Stubb	1.00			3381.00	
Shut In Tool	2.00			3383.00	
Change Over Sub	1.00			3384.00	
Drill Pipe	62.00			3446.00	
Change Over Sub	1.00			3447.00	
Recorder	0.00	8372	Inside	3447.00	
Recorder	0.00	8844	Outside	3447.00	
perforations	14.00			3461.00	
Bullnose	3.00			3464.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 105.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51591

**DST#: 3**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 00:56:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	Mud with spots of oil, 100%M	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

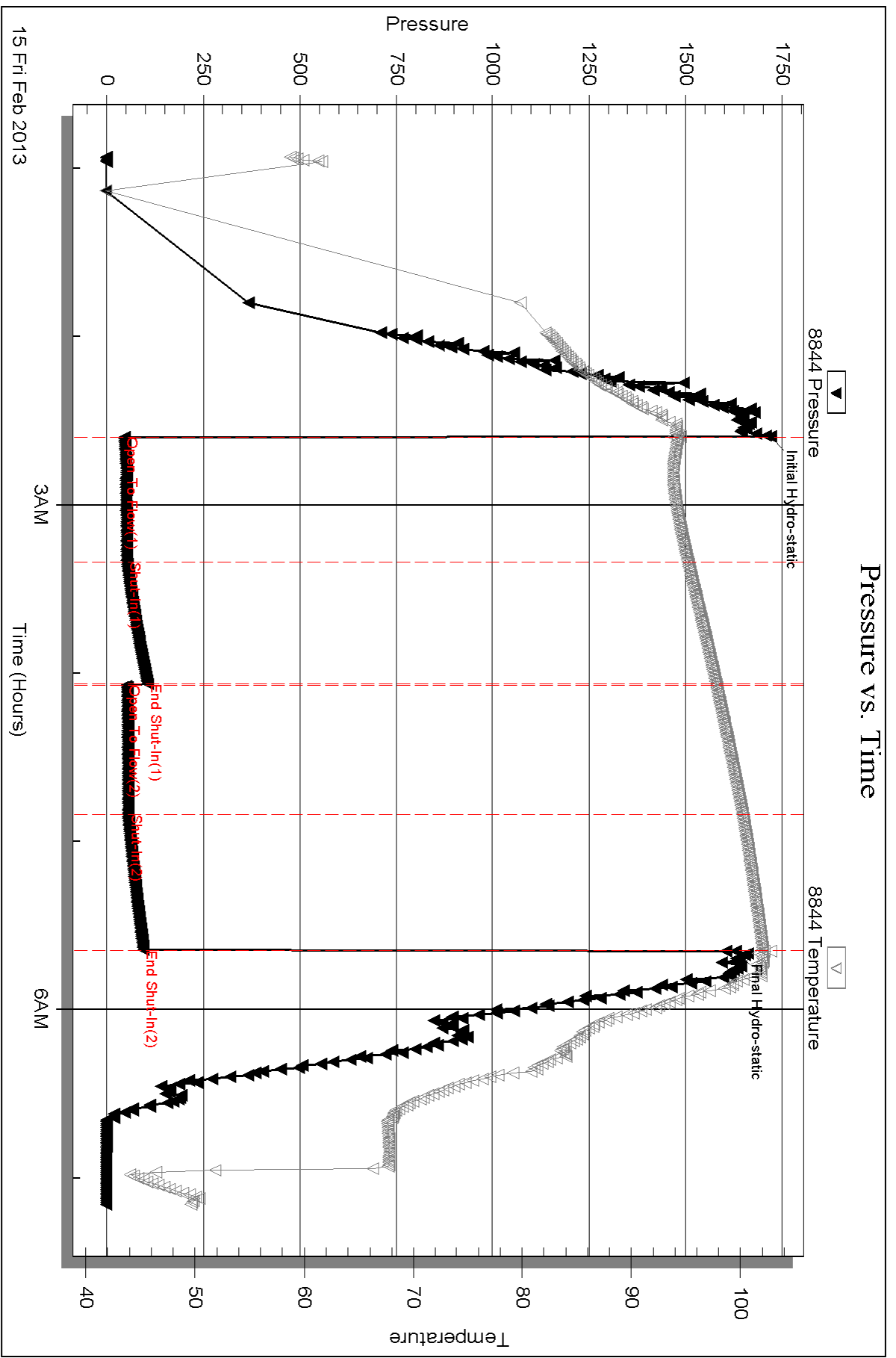
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



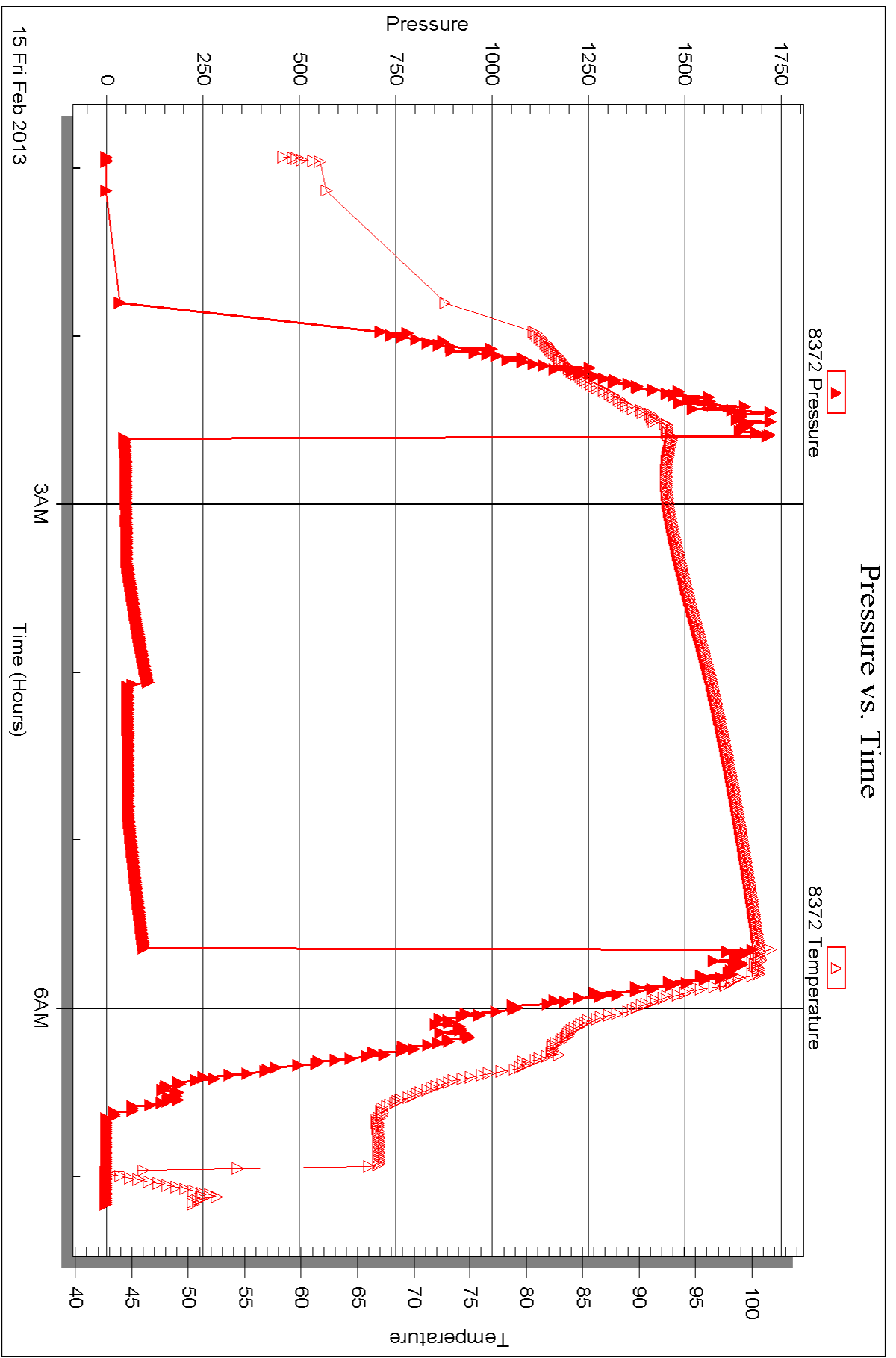
Serial #: 8372

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 51591

Printed: 2013.02.26 @ 16:36:52



## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019, Hays KS, 67601

ATTN: Allen Downing

**R. Berens Unit 1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.15 @ 15:25:05

End Date: 2013.02.15 @ 21:08:50

Job Ticket #: caught                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:28:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Downing

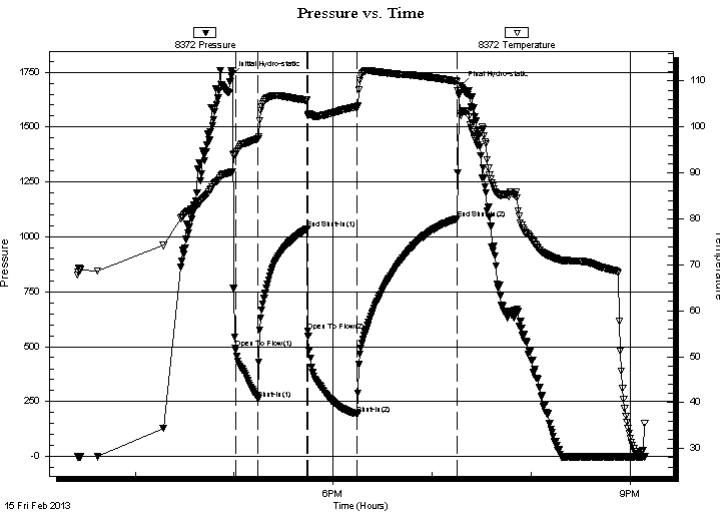
**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: caught **DST#: 4**  
 Test Start: 2013.02.15 @ 15:25:05

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:00:40  
 Time Test Ended: 21:08:50  
 Interval: **3480.00 ft (KB) To 3526.00 ft (KB) (TVD)**  
 Total Depth: 3526.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**  
 Press @ Run Depth: 193.53 psig @ 3485.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.15 End Date: 2013.02.15 Last Calib.: 2013.02.15  
 Start Time: 15:25:05 End Time: 21:08:50 Time On Btm: 2013.02.15 @ 16:58:20  
 Time Off Btm: 2013.02.15 @ 19:17:30

**TEST COMMENT:** IF:(15min) BOB immediately. GTS in 3 min. Gauged gas. Caught sample.  
 IS:(30min) No Return  
 FF:(30min) BOB & GTS in 1 min. Gauged gas.  
 FS:(60min) Return surface blow 1 min after bleed off. Died in 22 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1735.73	90.19	Initial Hydro-static
3	492.68	94.10	Open To Flow (1)
17	263.01	97.51	Shut-In(1)
46	1037.27	105.81	End Shut-In(1)
47	569.62	102.47	Open To Flow (2)
77	193.53	104.40	Shut-In(2)
137	1082.73	109.91	End Shut-In(2)
140	1690.37	102.47	Final Hydro-static

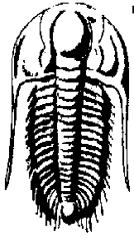
## Recovery

Length (ft)	Description	Volume (bbl)
155.00	Mud	1.89

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	95.00	1708.81
Last Gas Rate	0.75	45.00	927.82
Max. Gas Rate	0.75	95.00	1708.81



**TRILLOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 A T T N : Allen Dow ning

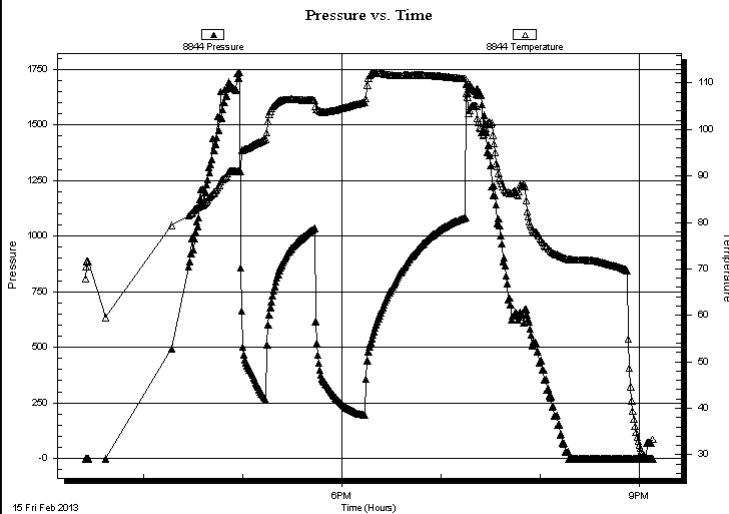
**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: caught **DST#: 4**  
 Test Start: 2013.02.15 @ 15:25:05

### GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:00:40  
 Time Test Ended: 21:08:50  
 Interval: **3480.00 ft (KB) To 3526.00 ft (KB) (TVD)**  
 Total Depth: 3526.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8844** **Inside**  
 Press @ Run Depth: psig @ 3485.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.15 End Date: 2013.02.15 Last Calib.: 2013.02.15  
 Start Time: 15:25:05 End Time: 21:08:29 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF:(15min) BOB immediately. GTS in 3 min. Gauged gas. Caught sample.  
 IS:(30min) No Return  
 FF:(30min) BOB & GTS in 1 min. Gauged gas.  
 FS:(60min) Return surface blow 1 min after bleed off. Died in 22 min.



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
155.00	Mud	1.89

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	95.00	1708.81
Last Gas Rate	0.75	45.00	927.82
Max. Gas Rate	0.75	95.00	1708.81

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: caught

**DST#: 4**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 15:25:05

## Tool Information

Drill Pipe:	Length: 3441.00 ft	Diameter: 3.80 inches	Volume: 48.27 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 48.42 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3480.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	66.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3461.00	
Shut In Tool	5.00			3466.00	
Hydraulic tool	5.00			3471.00	
Packer	5.00			3476.00	20.00 Bottom Of Top Packer
Packer	4.00			3480.00	
Stubb	1.00			3481.00	
Perforations	3.00			3484.00	
Change Over Sub	1.00			3485.00	
Recorder	0.00	8844	Inside	3485.00	
Recorder	0.00	8372	Outside	3485.00	
Drill Pipe	32.00			3517.00	
Change Over Sub	1.00			3518.00	
Perforations	5.00			3523.00	
Bullnose	3.00			3526.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 66.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: caught

**DST#: 4**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 15:25:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
155.00	Mud	1.892

Total Length: 155.00 ft

Total Volume: 1.892 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: caught

**DST#: 4**

ATTN: Allen Downing

Test Start: 2013.02.15 @ 15:25:05

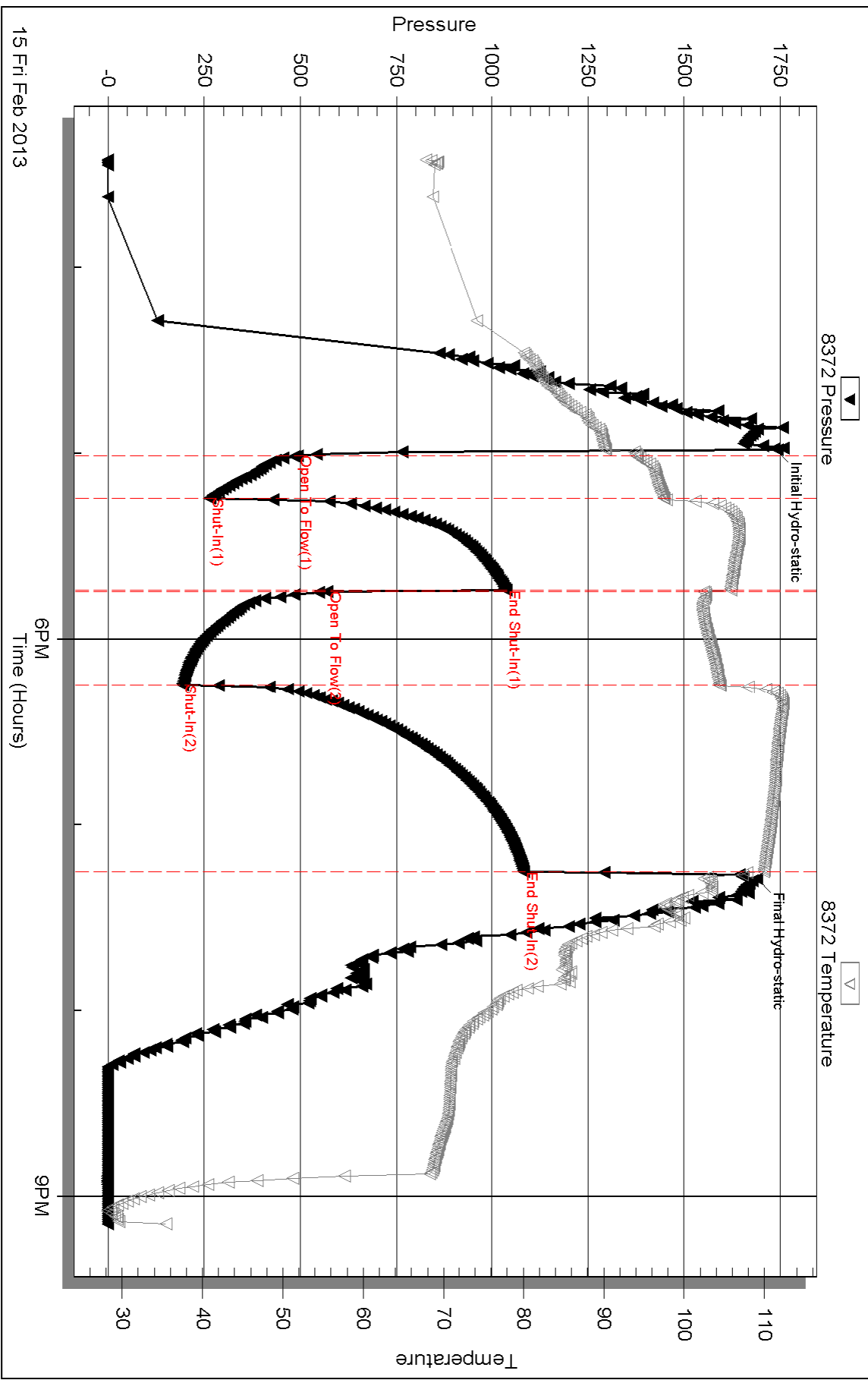
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	0.75	95.00	1708.81
1	15	0.75	72.00	1349.56
2	10	0.75	72.00	1349.56
2	15	0.75	59.00	1146.50
2	20	0.75	49.00	990.30
2	25	0.75	45.00	927.82

# Pressure vs. Time



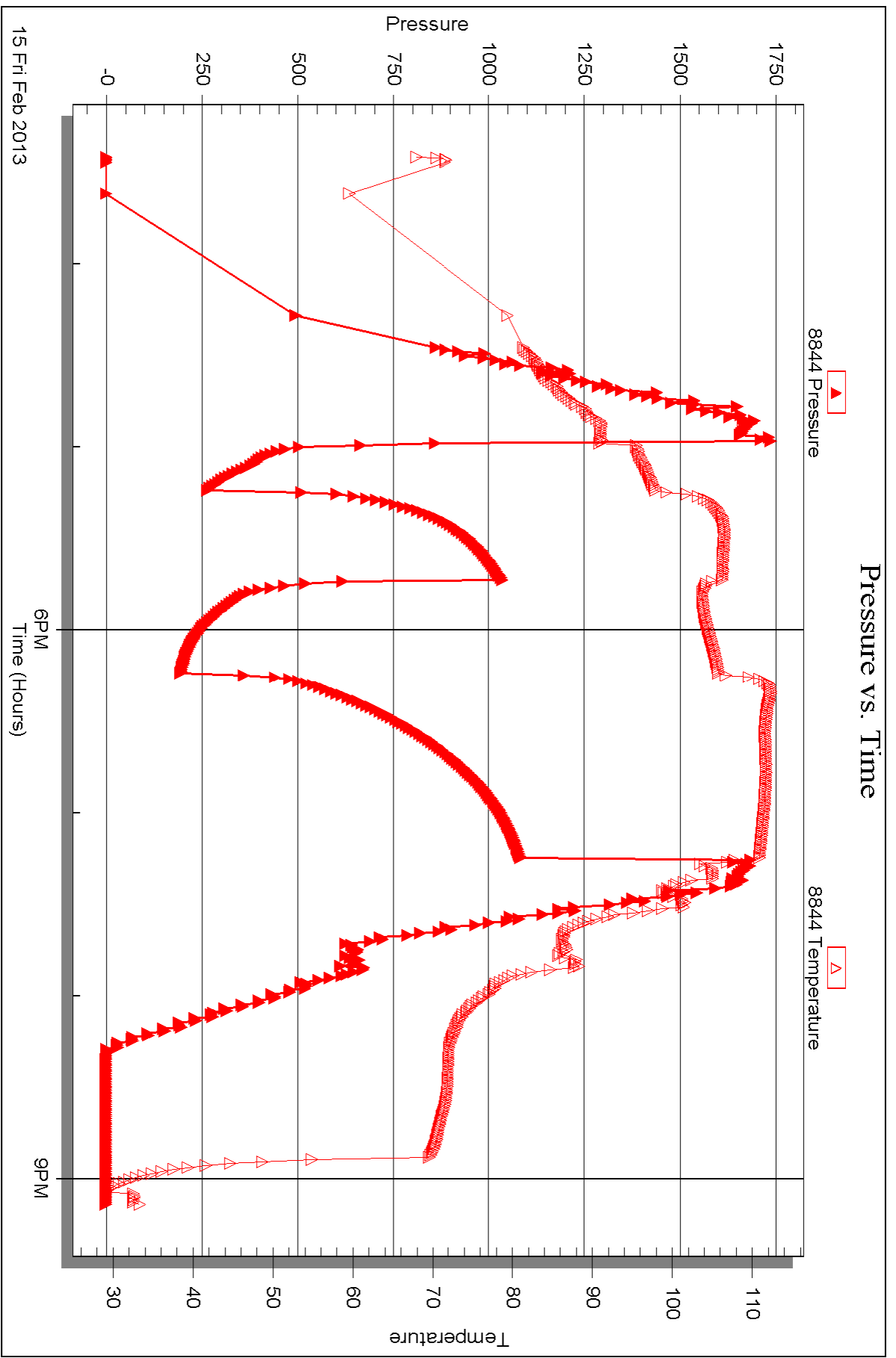
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R Berens Unit 1-8

DST Test Number: 4



Triobite Testing, Inc

Ref. No: caught

Printed: 2013.02.26 @ 16:28:43



## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019, Hays KS, 67601

ATTN: Allen Downing

**R. Berens Unit 1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.16 @ 02:06:05

End Date: 2013.02.16 @ 09:21:09

Job Ticket #: 51477                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:29:20



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Dow ning

**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: 51477 **DST#: 5**  
 Test Start: 2013.02.16 @ 02:06:05

## GENERAL INFORMATION:

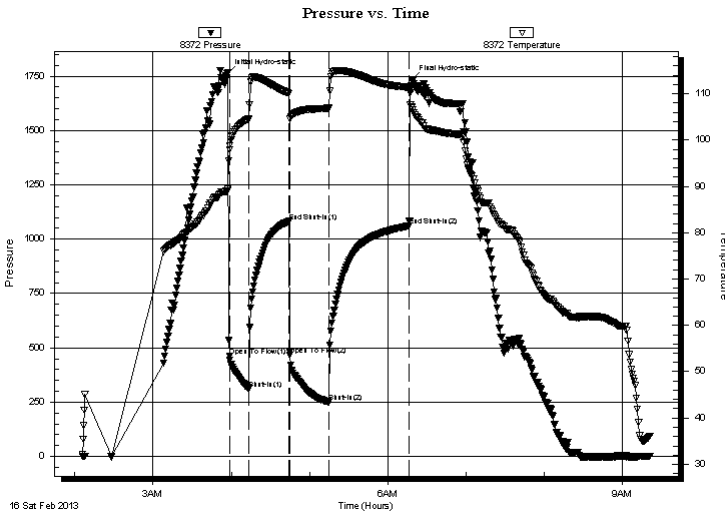
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:58:40  
 Time Test Ended: 09:21:09  
 Interval: **3526.00 ft (KB) To 3536.00 ft (KB) (TVD)**  
 Total Depth: 3536.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8372 Outside

Press @ Run Depth: 249.20 psig @ 3527.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.16 End Date: 2013.02.16 Last Calib.: 2013.02.16  
 Start Time: 02:06:05 End Time: 09:21:10 Time On Btm: 2013.02.16 @ 03:57:00  
 Time Off Btm: 2013.02.16 @ 06:18:30

**TEST COMMENT:** IF:(15min) BOB immediately. GTS 2 min. Gauged gas. Caught sample.  
 ISl:(30min) Return blow, built to 1/2". decreased to surface blow.  
 FF:(30min) BOB & GTS in 30 sec. Gauged gas. Would not burn.  
 FSl:(60min) Return blow built to 2". decreased to 1"

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.15	89.10	Initial Hydro-static
2	462.93	97.84	Open To Flow (1)
17	310.64	104.55	Shut-In(1)
47	1080.84	110.09	End Shut-In(1)
48	467.48	104.68	Open To Flow (2)
78	249.20	106.89	Shut-In(2)
140	1061.53	111.39	End Shut-In(2)
142	1731.88	107.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM o=10% m=90%	0.02
60.00	CO o=100%	0.60

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	94.00	1693.19
Last Gas Rate	0.75	66.00	1255.84
Max. Gas Rate	0.75	94.00	1693.19



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc  
 Po Box 1019, Hays KS, 67601  
 ATTN: Allen Downing

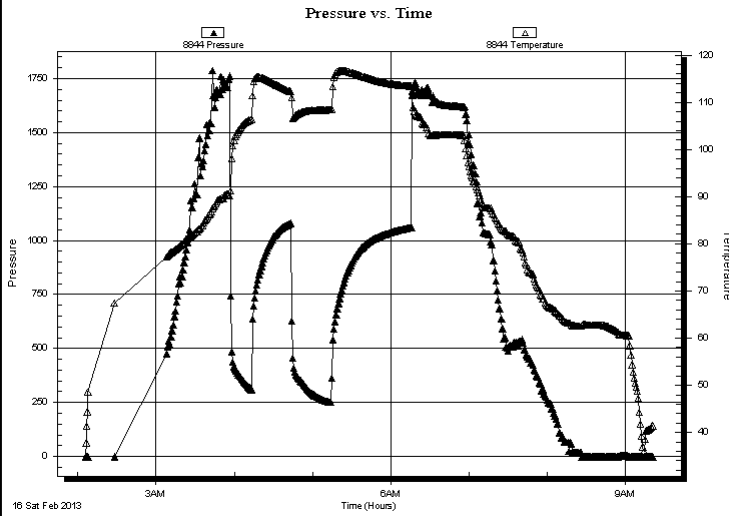
**8-16s-17w Rush KS**  
**R. Berens Unit 1-8**  
 Job Ticket: 51477 **DST#: 5**  
 Test Start: 2013.02.16 @ 02:06:05

### GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:58:40  
 Time Test Ended: 09:21:09  
**Interval: 3526.00 ft (KB) To 3536.00 ft (KB) (TVD)**  
 Total Depth: 3536.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 39  
 Reference Elevations: 1973.00 ft (KB)  
 1968.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8844 Inside**  
 Press @ Run Depth: psig @ 3527.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.16 End Date: 2013.02.16 Last Calib.: 2013.02.16  
 Start Time: 02:06:05 End Time: 09:20:59 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF:(15min) BOB immediately. GTS 2 min. Gauged gas. Caught sample.  
 ISl:(30min) Return blow, built to 1/2". decreased to surface blow.  
 FF:(30min) BOB & GTS in 30 sec. Gauged gas. Would not burn.  
 FSl:(60min) Return blow built to 2". decreased to 1"



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM o=10% m=90%	0.02
60.00	CO o=100%	0.60

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	94.00	1693.19
Last Gas Rate	0.75	66.00	1255.84
Max. Gas Rate	0.75	94.00	1693.19

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: 51477

**DST#: 5**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 02:06:05

## Tool Information

Drill Pipe:	Length: 3500.00 ft	Diameter: 3.80 inches	Volume: 49.10 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 49.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3526.00 ft			Final 43000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	31.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3506.00	
Shut In Tool	5.00			3511.00	
Hydraulic tool	5.00			3516.00	
Packer	5.00			3521.00	21.00 Bottom Of Top Packer
Packer	5.00			3526.00	
Stubb	1.00			3527.00	
Recorder	0.00	8844	Inside	3527.00	
Recorder	0.00	8372	Outside	3527.00	
perforations	6.00			3533.00	
Bullnose	3.00			3536.00	10.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

Job Ticket: 51477

**DST#: 5**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 02:06:05

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	OCM o=10% m=90%	0.025
60.00	CO o=100%	0.605

Total Length: 65.00 ft

Total Volume: 0.630 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019, Hays KS, 67601

**R. Berens Unit 1-8**

ATTN: Allen Downing

Job Ticket: 51477

**DST#: 5**

Test Start: 2013.02.16 @ 02:06:05

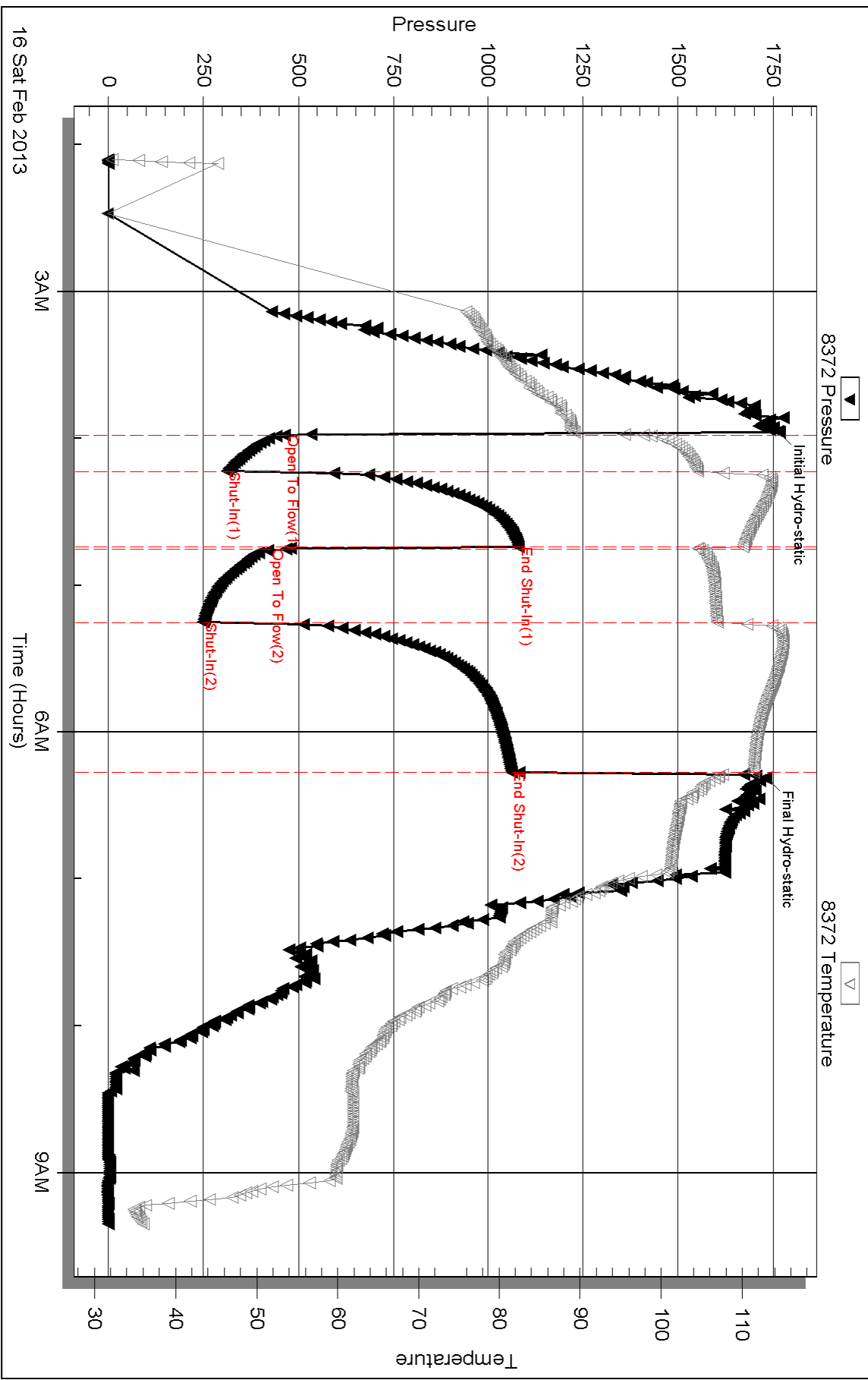
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	5	0.75	94.00	1693.19
1	5	0.75	94.00	1693.19
1	10	0.75	92.00	1661.95
1	15	0.75	82.00	1505.75
2	5	0.75	92.00	1661.95
2	10	0.75	89.00	1615.09
2	15	0.75	78.00	1443.28
2	20	0.75	72.00	1349.56
2	25	0.75	66.00	1255.84

# Pressure vs. Time



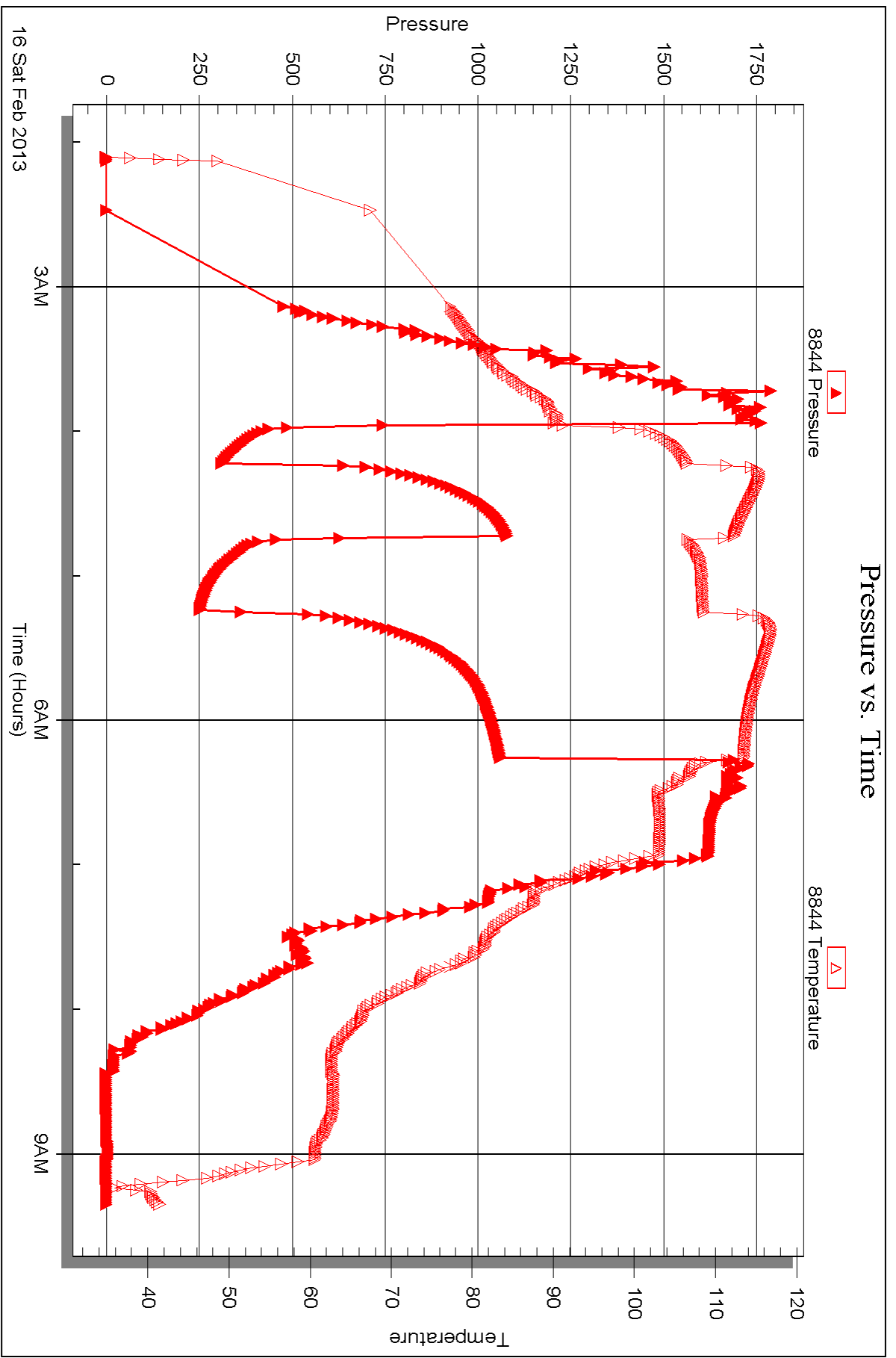
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit 1-8

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.16 @ 15:41:05

End Date: 2013.02.16 @ 21:13:59

Job Ticket #: 51478                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:36:06



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51478

**DST#: 6**

Test Start: 2013.02.16 @ 15:41:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:08:10

Time Test Ended: 21:13:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 39

**Interval: 3536.00 ft (KB) To 3546.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3546.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**

Press @RunDepth: 39.14 psig @ 3537.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.16 End Date: 2013.02.16

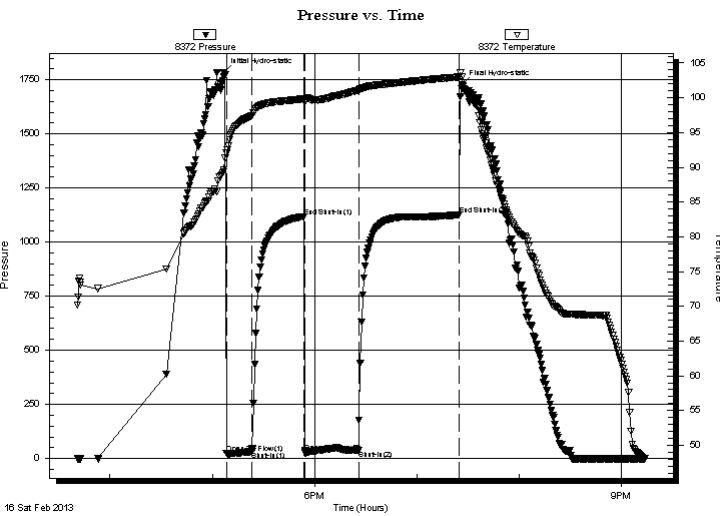
Last Calib.: 2013.02.16

Start Time: 15:41:05 End Time: 21:13:59

Time On Btm: 2013.02.16 @ 17:06:40

Time Off Btm: 2013.02.16 @ 19:26:30

**TEST COMMENT:** IF:(15min) BOB 1 min.  
IS:(30min) No Return  
FF:(30min) BOB immediately. GTS in 18 min. TSTM  
FS:(60min) Return blow , Built to 1/2" Decreased to surface blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1781.56	89.39	Initial Hydro-static
2	23.08	92.00	Open To Flow (1)
17	32.22	97.40	Shut-In(1)
48	1117.85	99.85	End Shut-In(1)
48	26.08	99.51	Open To Flow (2)
80	39.14	101.06	Shut-In(2)
139	1125.92	102.99	End Shut-In(2)
140	1725.61	102.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	HOCM o=40% m=60%	0.21
60.00	GO g=10% o=90%	0.84

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51478

**DST#: 6**

ATTN: Allen Dow ning

Test Start: 2013.02.16 @ 15:41:05

## GENERAL INFORMATION:

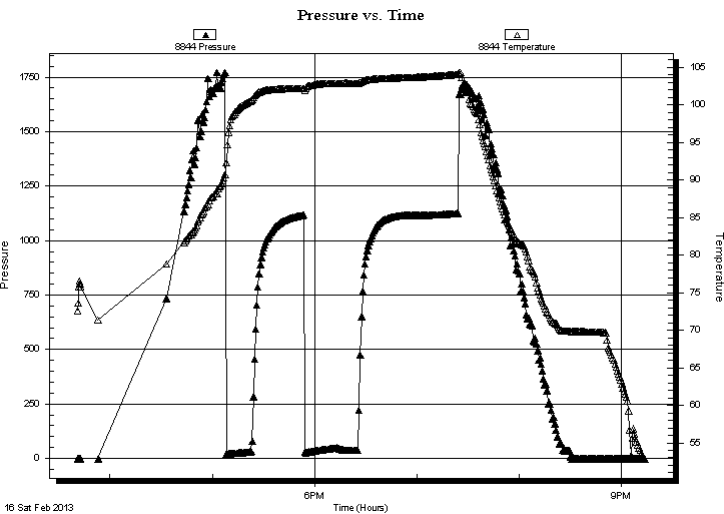
Formation: <b>Arbuckle</b>	Deviated: No Whipstock: ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 17:08:10	Time Test Ended: 21:13:59	Tester: Cody Bloedorn
Interval: <b>3536.00 ft (KB) To 3546.00 ft (KB) (TVD)</b>	Total Depth: 3546.00 ft (KB) (TVD)	Unit No: 39
Hole Diameter: 7.88 inches	Hole Condition: Fair	Reference Elevations: 1973.00 ft (KB) 1968.00 ft (CF)
		KB to GR/CF: 5.00 ft

## Serial #: 8844

Inside

Press @ Run Depth: psig @ 3537.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2013.02.16	End Date: 2013.02.16
Start Time: 15:41:05	End Time: 21:13:50
	Last Calib.: 2013.02.16
	Time On Btm:
	Time Off Btm:

**TEST COMMENT:** IF:(15min) BOB 1 min.  
IS:(30min) No Return  
FF:(30min) BOB immediately. GTS in 18 min. TSTM  
FS:(60min) Return blow , Built to 1/2" Decreased to surface blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	HOCM o=40% m=60%	0.21
60.00	GO g=10% o=90%	0.84

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51478

**DST#: 6**

ATTN: Allen Dow ning

Test Start: 2013.02.16 @ 15:41:05

## Tool Information

Drill Pipe:	Length: 3505.00 ft	Diameter: 3.80 inches	Volume: 49.17 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 49.32 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3536.00 ft			Final	45000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	10.00 ft				
Tool Length:	30.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3517.00	
Shut In Tool	5.00			3522.00	
Hydraulic tool	5.00			3527.00	
Packer	5.00			3532.00	20.00 Bottom Of Top Packer
Packer	4.00			3536.00	
Stubb	1.00			3537.00	
Recorder	0.00	8844	Inside	3537.00	
Recorder	0.00	8372	Outside	3537.00	
perforations	6.00			3543.00	
Bullnose	3.00			3546.00	10.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>30.00</b>				



**TRILOBITE**  
**TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51478

**DST#: 6**

ATTN: Allen Downing

Test Start: 2013.02.16 @ 15:41:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 50.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	HOCM o=40% m=60%	0.209
60.00	GO g=10% o=90%	0.842

Total Length: 95.00 ft      Total Volume: 1.051 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

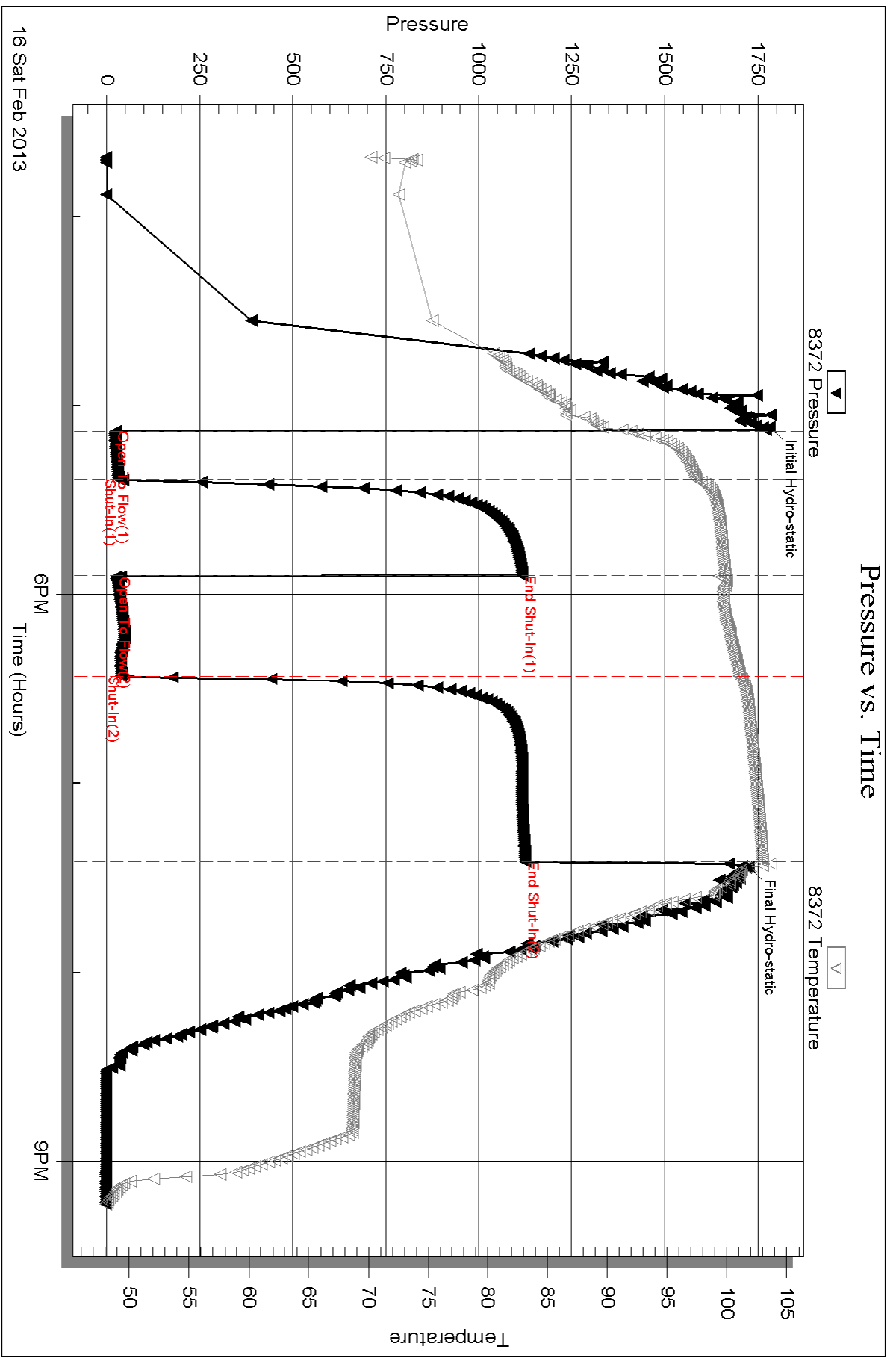
Recovery Comments:

Serial #: 8372

Outside Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 51478

Printed: 2013.02.26 @ 16:36:08

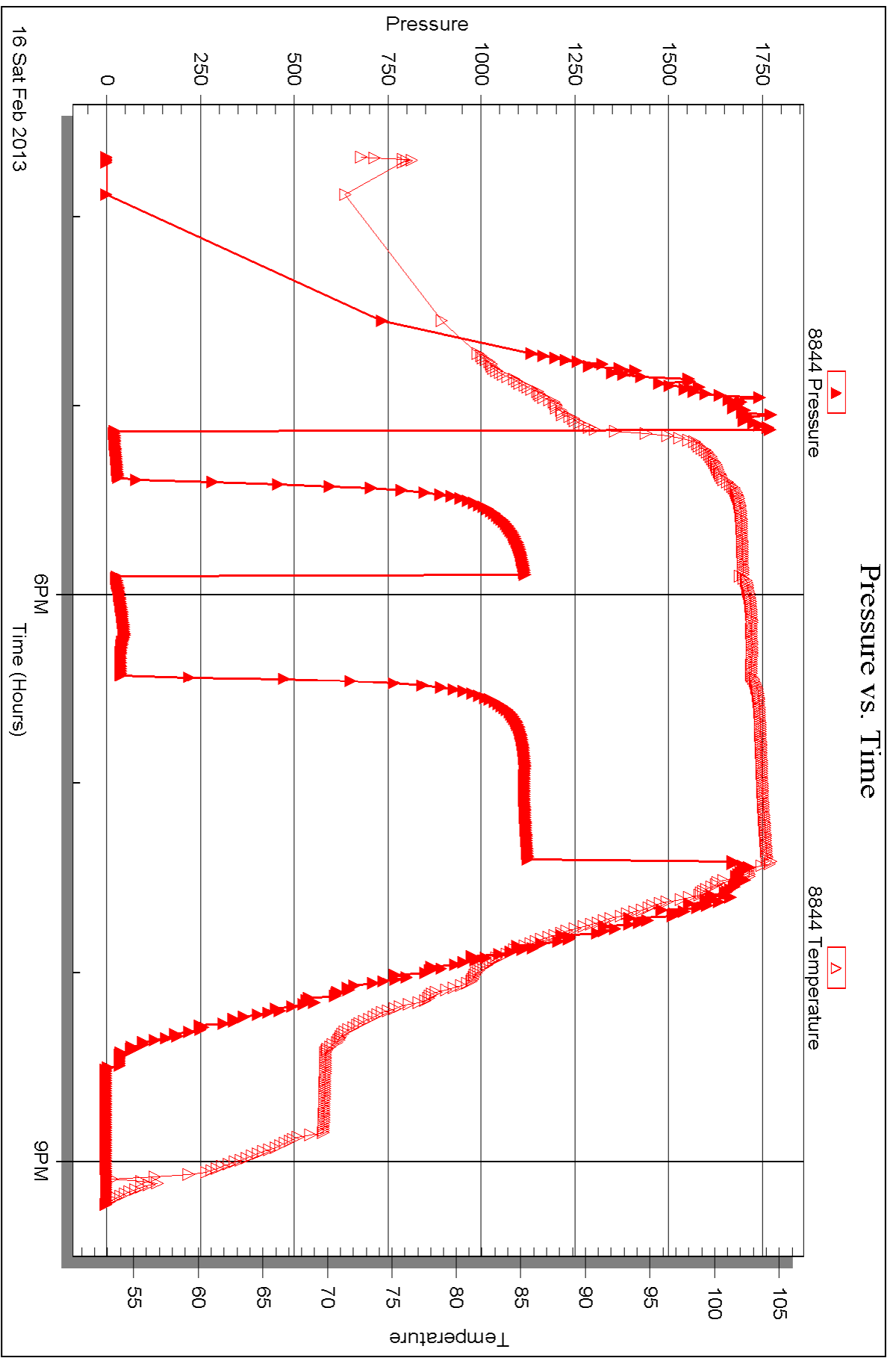
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 6



Triobite Testing, Inc

Ref. No: 51478

Printed: 2013.02.26 @ 16:36:08



## DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

Po Box 1019  
Hays KS 67601

ATTN: Allen Downing

**R. Berens Unit #1-8**

**8-16s-17w Rush KS**

Start Date: 2013.02.17 @ 10:24:05

End Date: 2013.02.17 @ 16:05:39

Job Ticket #: 51479                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.26 @ 16:34:00



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51479

**DST#: 7**

Test Start: 2013.02.17 @ 10:24:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:51:50

Time Test Ended: 16:05:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**

Reference Elevations: 1973.00 ft (KB)

Total Depth: 3616.00 ft (KB) (TVD)

1968.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8372 Outside**

Press @RunDepth: 284.38 psig @ 3547.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.17 End Date: 2013.02.17

Last Calib.: 2013.02.17

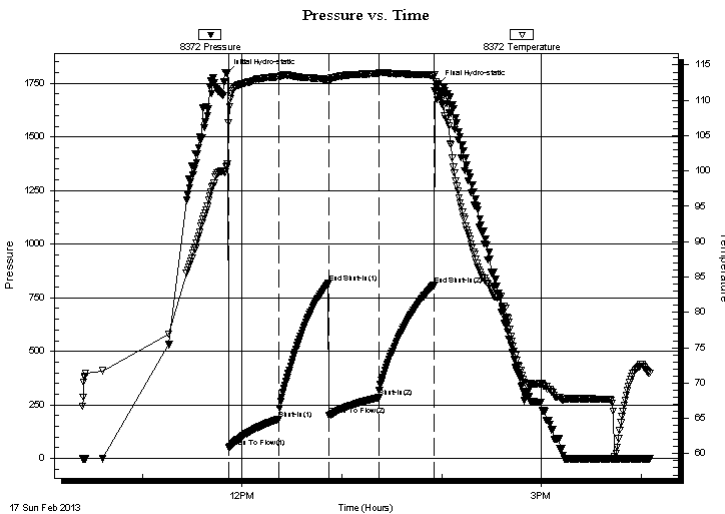
Start Time: 10:24:05 End Time: 16:05:40

Time On Btm: 2013.02.17 @ 11:50:40

Time Off Btm: 2013.02.17 @ 13:57:40

**TEST COMMENT:** IF:(30min) BOB 3 min.  
IS:(30min) Weak surface blow back.  
FF:(30min) BOB 7 min.  
FS:(30min) Very weak surface blow back. died in 14 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.30	100.67	Initial Hydro-static
2	51.92	106.85	Open To Flow (1)
32	184.54	113.32	Shut-In(1)
62	817.96	112.93	End Shut-In(1)
62	200.43	112.67	Open To Flow (2)
92	284.38	113.84	Shut-In(2)
125	808.03	113.56	End Shut-In(2)
128	1746.43	111.15	Final Hydro-static

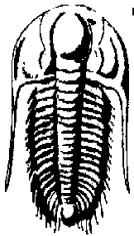
## Recovery

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

ATTN: Allen Dow ning

Test Start: 2013.02.17 @ 10:24:05

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:51:50

Time Test Ended: 16:05:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

**Interval: 3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**

Total Depth: 3616.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1973.00 ft (KB)

1968.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8844 Inside**

Press @ Run Depth: psig @ 3547.00 ft (KB)

Start Date: 2013.02.17

End Date: 2013.02.17

Start Time: 10:24:05

End Time: 16:05:29

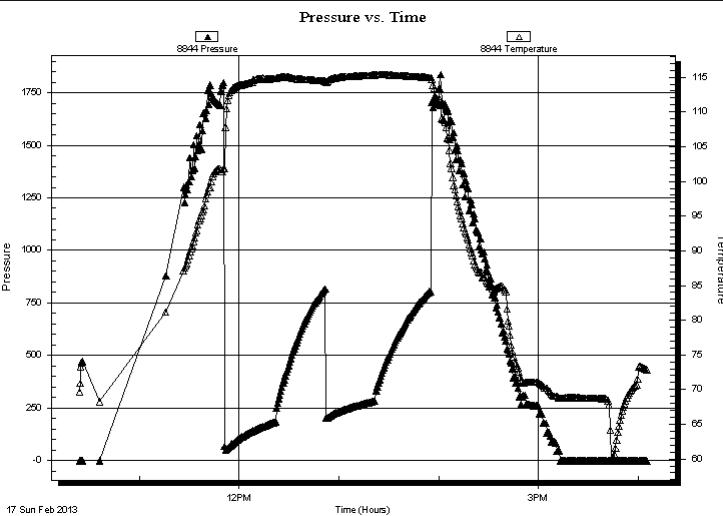
Capacity: 8000.00 psig

Last Calib.: 2013.02.17

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF:(30min) BOB 3 min.  
IS:(30min) Weak surface blow back.  
FF:(30min) BOB 7 min.  
FS:(30min) Very weak surface blow back. died in 14 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

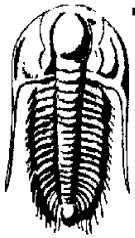
## Recovery

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

ATTN: Allen Dow ning

Job Ticket: 51479

**DST#: 7**

Test Start: 2013.02.17 @ 10:24:05

**GENERAL INFORMATION:**

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:51:50

Time Test Ended: 16:05:39

Interval: **3546.00 ft (KB) To 3564.00 ft (KB) (TVD)**

Total Depth: 3616.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Reference Elevations: 1973.00 ft (KB)

1968.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8647**

**Below (Straddle)**

Press @ Run Depth: psig @ 3584.00 ft (KB)

Start Date: 2013.02.17

End Date:

2013.02.17

Start Time: 10:24:05

End Time:

16:04:20

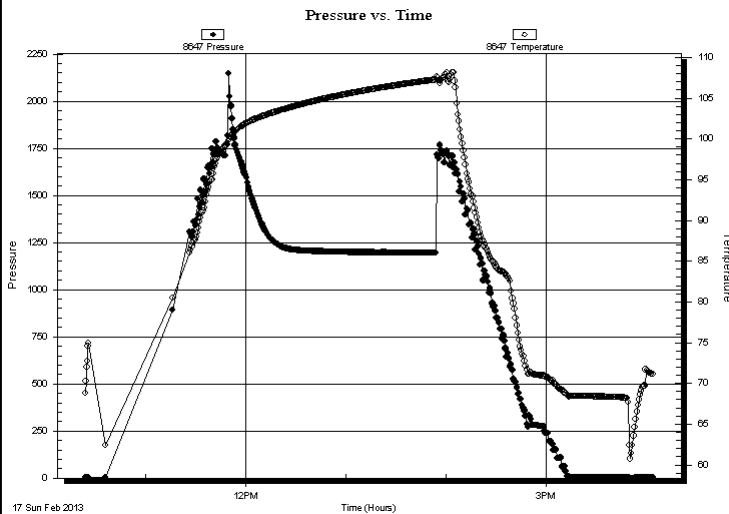
Capacity: 8000.00 psig

Last Calib.: 2013.02.17

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF:(30min) BOB 3 min.  
IS:(30min) Weak surface blow back.  
FF:(30min) BOB 7 min.  
FS:(30min) Very weak surface blow back. died in 14 min.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
540.00	Water	7.29

**Gas Rates**

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

ATTN: Allen Dow ning

Test Start: 2013.02.17 @ 10:24:05

## Tool Information

Drill Pipe:	Length: 3503.00 ft	Diameter: 3.80 inches	Volume: 49.14 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	26000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	58000.00 lb
			<u>Total Volume: 49.29 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3546.00 ft			Final	47000.00 lb
Depth to Bottom Packer:	3564.00 ft				
Interval betw een Packers:	18.00 ft				
Tool Length:	94.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3527.00	
Shut In Tool	5.00			3532.00	
Hydraulic tool	5.00			3537.00	
Packer	5.00			3542.00	20.00 Bottom Of Top Packer
Packer	4.00			3546.00	
Stubb	1.00			3547.00	
Recorder	0.00	8844	Inside	3547.00	
Recorder	0.00	8372	Outside	3547.00	
perforations	12.00			3559.00	
Blank Off Sub	1.00			3560.00	
Blank Spacing	4.00			3564.00	18.00 Tool Interval
Packer	4.00			3568.00	
Stubb	1.00			3569.00	
Perforations	14.00			3583.00	
Change Over Sub	1.00			3584.00	
Recorder	0.00	8647	Below	3584.00	
Drill Pipe	32.00			3616.00	
Change Over Sub	1.00			3617.00	
Bullnose	3.00			3620.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Downing Nelson Oil Co Inc

**8-16s-17w Rush KS**

Po Box 1019  
Hays KS 67601

**R. Berens Unit #1-8**

Job Ticket: 51479

**DST#: 7**

ATTN: Allen Downing

Test Start: 2013.02.17 @ 10:24:05

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: 36000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
540.00	Water	7.292

Total Length: 540.00 ft      Total Volume: 7.292 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

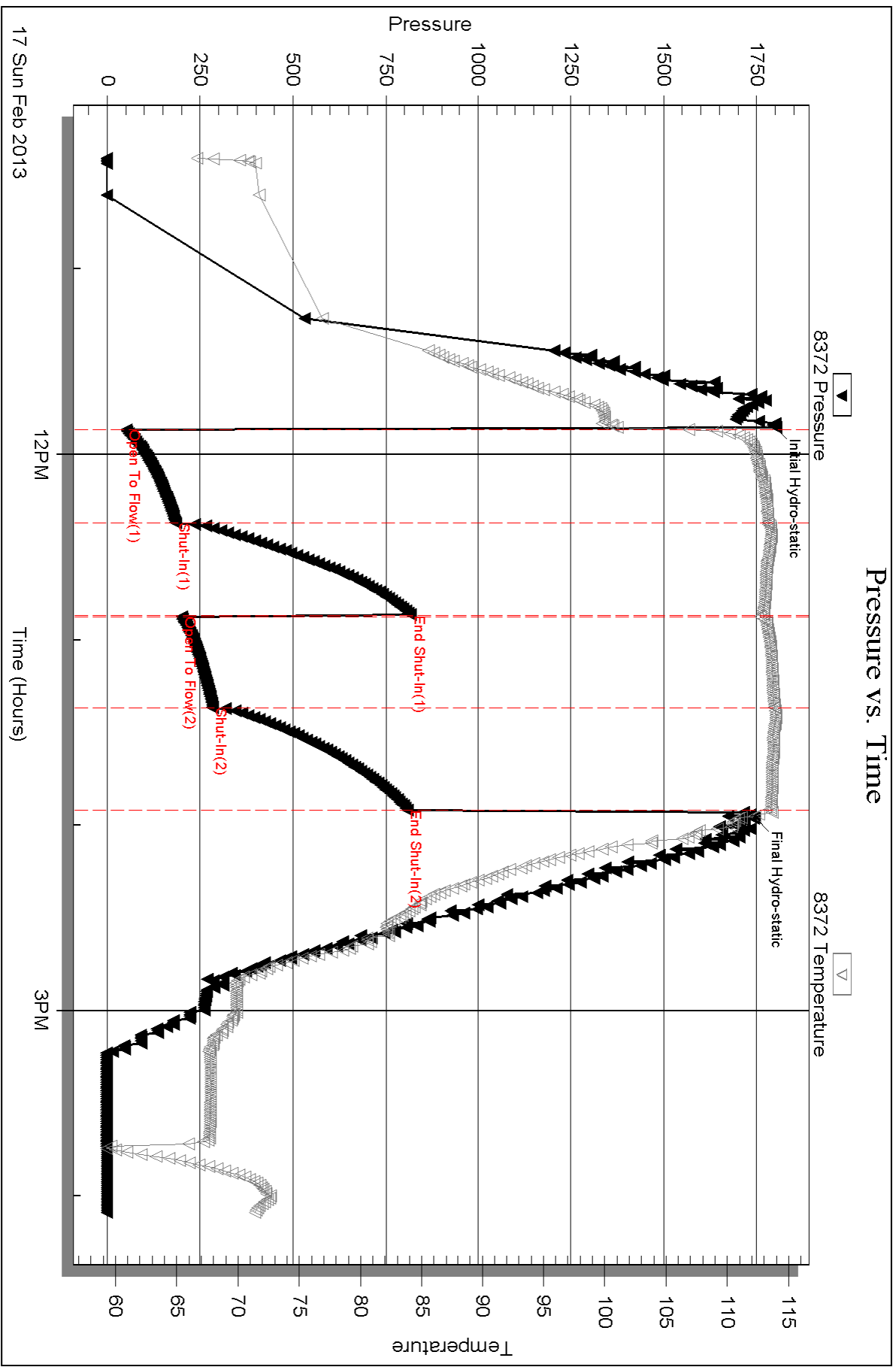
Recovery Comments:

Serial #: 8372

Outside Downing Nelson Oil Co Inc

R Berens Unit #1-8

DST Test Number: 7



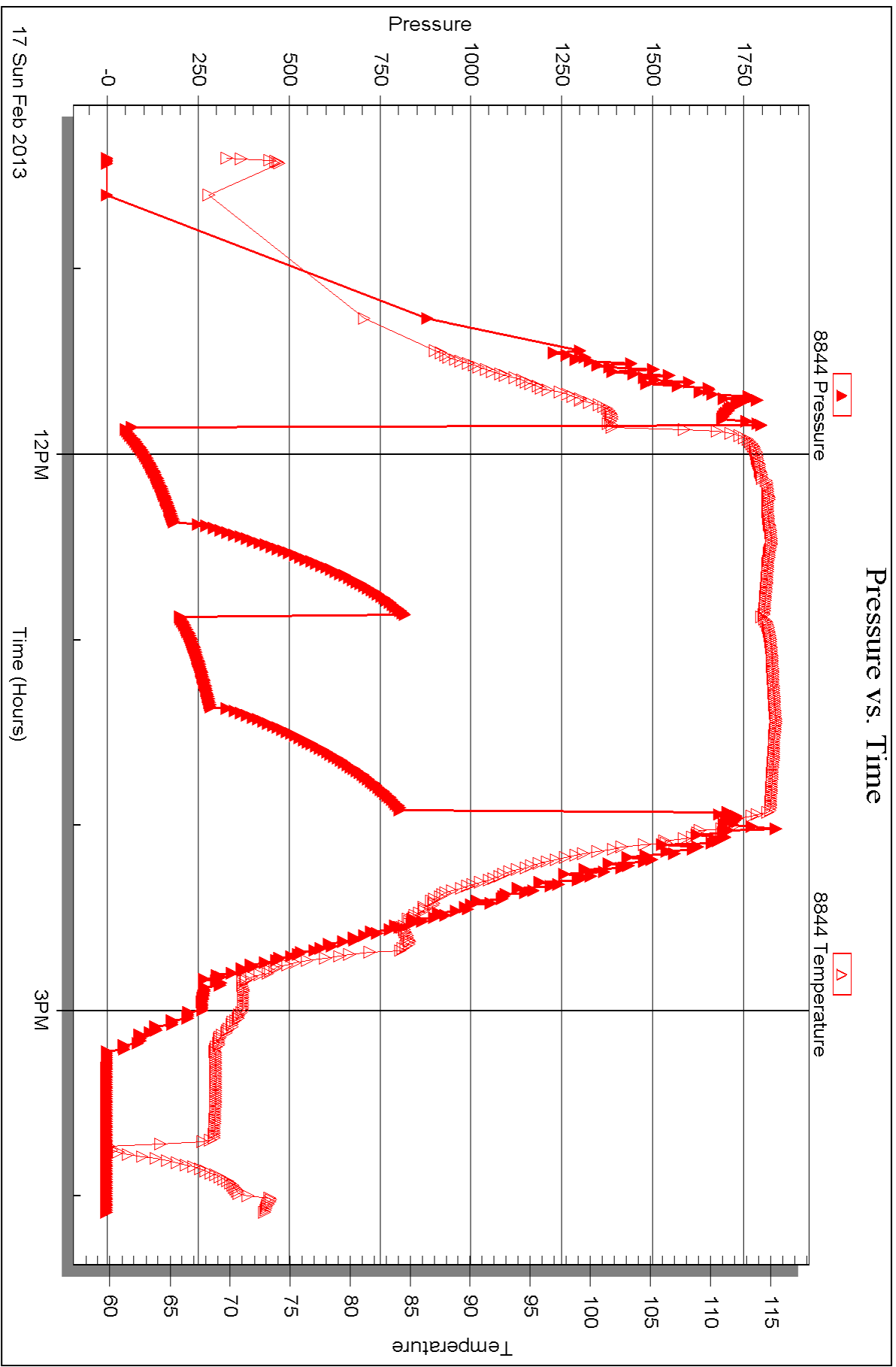
Serial #: 8844

Inside

Downing Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 7



17 Sun Feb 2013

Time (Hours)

Triobite Testing, Inc

Ref. No: 51479

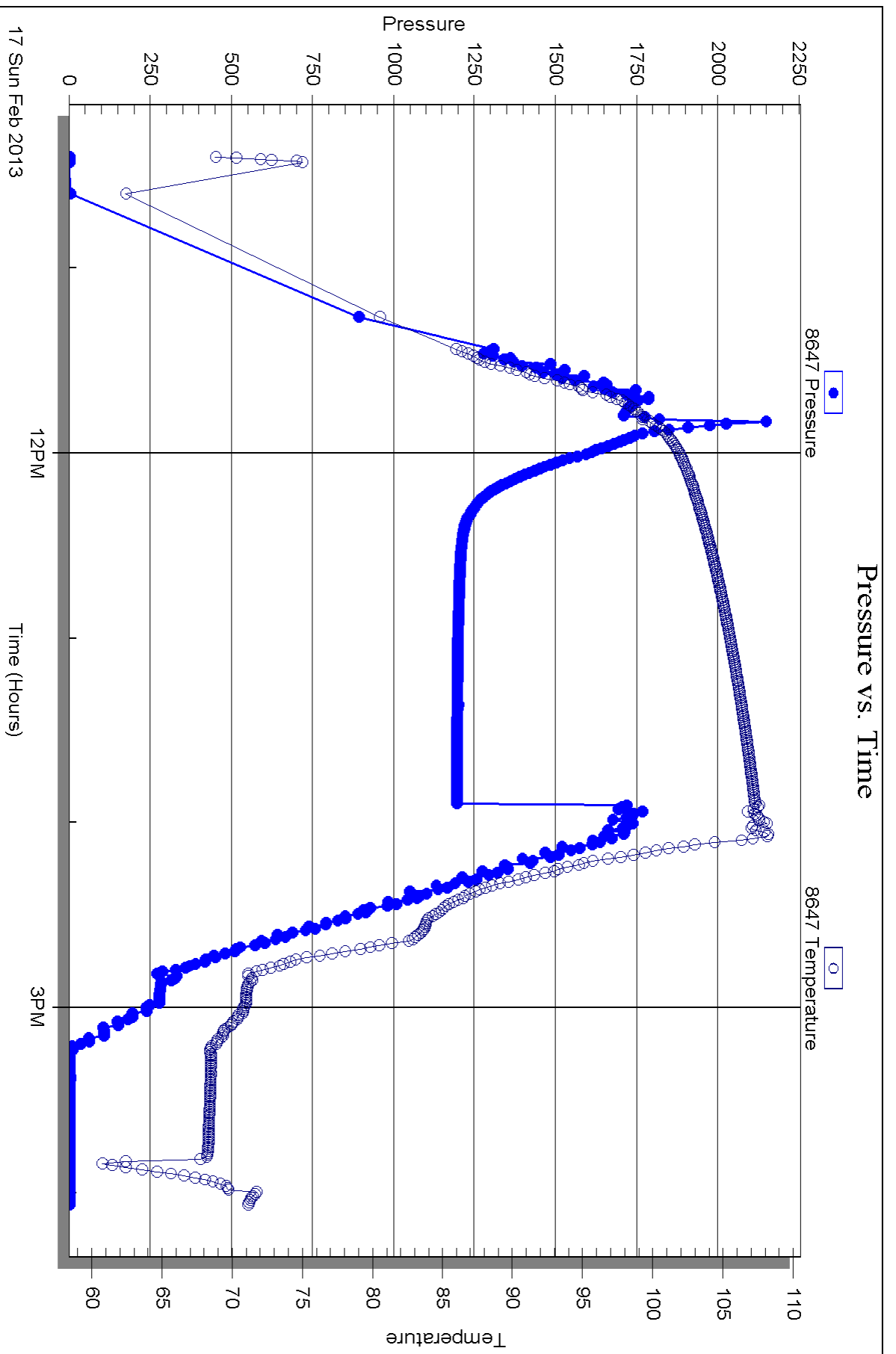
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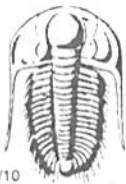
Serial #: 8647

Below (Stratton) Nelson Oil Co Inc

R. Berens Unit #1-8

DST Test Number: 7





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51589

4/10

Well Name & No. <u>R Berens Unit 1-8</u>	Test No. <u>1</u>	Date <u>2-13-13</u>
Company <u>Downing-Nelson Oil Co Inc</u>	Elevation <u>1973</u>	KB <u>1968</u> GL
Address <u>Po Box 1019, Hays KS, 67601</u>		
Co. Rep / Geo. <u>Allen Downing</u>	Rig <u>Discovery #4</u>	
Location: Sec. <u>8</u> Twp. <u>16S</u> Rge. <u>17W</u> Co. <u>Rush</u> State <u>KS</u>		

Interval Tested <u>3144 - 3165</u>	Zone Tested <u>Platts mouth</u>
Anchor Length <u>21'</u>	Drill Pipe Run <u>3126'</u> Mud Wt. <u>8.8</u>
Top Packer Depth <u>3139</u>	Drill Collars Run <u>31'</u> Vis <u>51</u>
Bottom Packer Depth <u>3144</u>	Wt. Pipe Run <u>—</u> WL <u>8.0</u>
Total Depth <u>3165</u>	Chlorides <u>4500</u> ppm System LCM <u>—</u>
Blow Description <u>IF - B.O.B. instantly</u>	
<u>FSI - "return"</u>	
<u>FF - B.O.B. instantly, Dying off @ 20 Min.</u>	
<u>FSI - Surface blow back.</u>	

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>Mud w oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>583' of G.I.P.</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

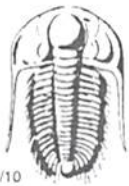
Rec Total 35' BHT 94° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1521</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:15 pm</u>
(B) First Initial Flow <u>11</u>	<input type="checkbox"/> Jars	T-Started <u>3:39 pm</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint	T-Open <u>5:26 pm</u>
(D) Initial Shut-In <u>535</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>7:26 pm</u>
(E) Second Initial Flow <u>12</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:07 pm</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>45 RT</u> 69.75	Comments
(G) Final Shut-In <u>455</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1482</u>	<input type="checkbox"/> Straddle	

Initial Open <u>30</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	Sub Total <u>0</u>
	Total <u>1219.75</u>
	MP/DST Disc't
Sub Total <u>1219.75</u>	

Approved By \_\_\_\_\_ Our Representative Cody B...

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51590

4/10

Well Name & No. R. Berens Unit 1-8 Test No. 2 Date 7-14-13  
 Company Downing Nelson Oil Co Inc Elevation 1973 KB 1968 GL  
 Address Po Box 1019, Hays KS, 67601  
 Co. Rep / Geo. Allen Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16s Rge. 17w Co. Rush State KS

Interval Tested 3275 - 3322 Zone Tested KC "C-D"  
 Anchor Length 47' Drill Pipe Run 3251' Mud Wt. 8.8  
 Top Packer Depth 3270 Drill Collars Run 31' Vis 51  
 Bottom Packer Depth 3275 Wt. Pipe Run — WL 8.0  
 Total Depth 3322 Chlorides 4.500 ppm System LCM —

Blow Description ±F-2" blow  
FSI- No return  
FF-3/4" blow  
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>Mud with spots of oil</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

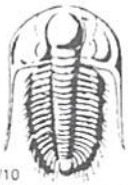
Rec Total 35' BHT 98° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1630  Test 1150 T-On Location 8:02am  
 (B) First Initial Flow 28  Jars — T-Started 8:15am  
 (C) First Final Flow 38  Safety Joint — T-Open 10:32am  
 (D) Initial Shut-In 786  Circ Sub — T-Pulled 12:32pm  
 (E) Second Initial Flow 39  Hourly Standby — T-Out 2:14pm  
 (F) Second Final Flow 44  Mileage 45 RT 69.75 Comments —  
 (G) Final Shut-In 721  Sampler —  
 (H) Final Hydrostatic 1565  Straddle —  Ruined Shale Packer —

Initial Open 30  Shale Packer —  Ruined Packer —  
 Initial Shut-In 30  Extra Packer —  Extra Copies —  
 Final Flow 30  Extra Recorder — Sub Total 0  
 Final Shut-In 30  Day Standby — Total 1219.75  
 Accessibility — MP/DST Disc't —  
 Sub Total 1219.75

Approved By \_\_\_\_\_ Our Representative Cody Bladen

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51591

Well Name & No. R. Berens Unit 1-8 Test No. 3 Date 2-15-13  
 Company Downing Nelson Oil Co Inc Elevation 1973 KB 1968 GL  
 Address Po Box 1019, Hays ks, 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16s Rge. 17w Co. Rush State KS

Interval Tested 3380 - 3464 Zone Tested "H-k"  
 Anchor Length 84' Drill Pipe Run 3346 Mud Wt. 9.1  
 Top Packer Depth 3375 Drill Collars Run 31 Vis 46  
 Bottom Packer Depth 3380 Wt. Pipe Run — WL 8.8  
 Total Depth 3464 Chlorides 5,500 ppm System LCM 2#

Blow Description ±F - 2 1/4" blow  
ISI - No return  
FF - 3/4" blow  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>Mud - with oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 102° Gravity — API RW — @ — °F Chlorides — ppm

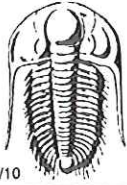
(A) Initial Hydrostatic 1719  Test 1150 T-On Location 12:42 am  
 (B) First Initial Flow 45  Jars \_\_\_\_\_ T-Started 12:56 am  
 (C) First Final Flow 52  Safety Joint \_\_\_\_\_ T-Open 2:36 am  
 (D) Initial Shut-In 106  Circ Sub \_\_\_\_\_ T-Pulled 5:36 am  
 (E) Second Initial Flow 50  Hourly Standby \_\_\_\_\_ T-Out 7:10 am  
 (F) Second Final Flow 55  Mileage 45 RT 69.75  
 (G) Final Shut-In 95  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1630  Straddle \_\_\_\_\_

Initial Open 45  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Ruined Packer \_\_\_\_\_  
 Final Flow 45  Extra Packer \_\_\_\_\_  
 Final Shut-In 45  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1219.75  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1219.75

Approved By \_\_\_\_\_ Our Representative Cody Bluh

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51476

Well Name & No. R. BERENS UNIT #1-8 Test No. 4 Date 2-15-13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO BOX 1019 Hays, Ks 67601  
 Co. Rep / Geo. MARC DOWNING Rig Discovery #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks

Interval Tested 3480-3526 Zone Tested Ne buckle  
 Anchor Length 46' Drill Pipe Run 3441 Mud Wt. 9.2  
 Top Packer Depth 3475 Drill Collars Run 31 Vis 5.7  
 Bottom Packer Depth 3480 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3526 Chlorides 6000 ppm System LCM 2#

Blow Description IF: BOB immediately. BTS in 3min. Gauged Gas, caught sample  
FSD: NO RETURN  
FP: BOB & BTS in 1min. Gauged Gas  
FSD: Return surface blow 1min. After bleed off. Died in 22min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>155</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 155 BHT 109° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

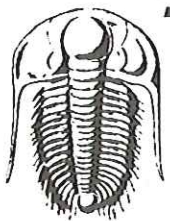
(A) Initial Hydrostatic 1735  Test 1150 T-On Location 14:39  
 (B) First Initial Flow 492  Jars \_\_\_\_\_ T-Started 15:25  
 (C) First Final Flow 263  Safety Joint \_\_\_\_\_ T-Open 17:00  
 (D) Initial Shut-In 1037  Circ Sub \_\_\_\_\_ T-Pulled 19:15  
 (E) Second Initial Flow 529  Hourly Standby \_\_\_\_\_ T-Out 21:09  
 (F) Second Final Flow 193  Mileage 45RT 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 1082  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1690  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 15  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 1219.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1219.75

Approved By \_\_\_\_\_

Our Representative [Signature]

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# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

*Downing - Nelson Oil Co. Inc.*  
OPERATOR

*R. BERENS UNIT #1-8*  
WELL NAME AND NO.

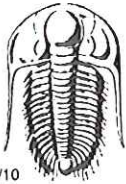
*4*  
DST NO.

*1st Floor*

*2nd Floor*

Min.	Ins. of Water PSIG	Orifice Size	mcfD CF/D	Min.	Ins. of Water PSIG	Orifice Size	mcfD CF/D
10	95	3/4	1.708.817	5	76	3/4	1.412
15	72	3/4	1.349.556	10	72	3/4	1.349
				15	59	3/4	1.146
				20	49	3/4	990
				25	45	3/4	927

Remarks:



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51477

Well Name & No. R BERENS unit #1-8 Test No. 5 Date 2/16/13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO Box 1019, Hays Ks 67601  
 Co. Rep / Geo. Macl Downing Rig Discovery #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks.

Interval Tested 3526-3536 Zone Tested Arbuckle  
 Anchor Length 10' Drill Pipe Run 3500 Mud Wt. 9.2  
 Top Packer Depth 3521 Drill Collars Run 31 Vis 57  
 Bottom Packer Depth 3526 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3536 Chlorides 6000 ppm System LCM 2#

Blow Description IF: BOB immediately, BTS 2min, Gauged gas, Caught sample  
ISF: Return blow built to 1/2" decreased to surface blow  
FF: BOB & BTS in 30 sec. Gauged Gas. Would not burn  
FSD1 Return blow built to 2", decreased to 1"

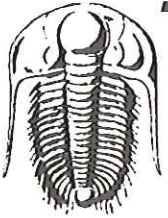
Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>CO</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>5</u>	<u>OCM</u>	<u>10</u>	<u>0</u>	<u>0</u>	<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT \_\_\_\_\_ Gravity 30 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1762</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>02:04</u>
(B) First Initial Flow <u>462</u>	<input type="checkbox"/> Jars _____	T-Started <u>02:06</u>
(C) First Final Flow <u>310</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>04:38</u>
(D) Initial Shut-In <u>1080</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>06:53</u>
(E) Second Initial Flow <u>467</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:01</u>
(F) Second Final Flow <u>249</u>	<input checked="" type="checkbox"/> Mileage <u>4521</u> 69.75	Comments _____
(G) Final Shut-In <u>1061</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1731</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>15'</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1219.75</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1219.75</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

Downing Nelson oil & gas inc  
OPERATOR

R BERENS unit 1-5  
WELL NAME AND NO.

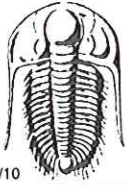
5  
DST NO.

1st Flow

2nd Flow

Min.	Ins. of Water PSIG	Orifice Size	mCFD GFID	Min.	Ins. of Water PSIG	Orifice Size	mCFD GFID
5	94	3/4"	1.693	5	92	3/4"	1.661
10	92	3/4"	1.661	10	89	3/4"	1.615
15	82	3/4"	1.505	15	78	3/4"	1.443
				20	72	3/4"	1.349
				25	66	3/4"	1.255
				30	62	3/4"	1.193

Remarks:



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51478

Well Name & No. R BERENS unit #1-8 Test No. 6 Date 2-16-13  
 Company DNOc Elevation 1973 KB 1968 GL  
 Address PO Box 1019 Hays Ks. 67601  
 Co. Rep / Geo. MARC DOWNING Rig DISCOVERY #4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks

Interval Tested 3536-3546 Zone Tested AA buckle  
 Anchor Length 10' Drill Pipe Run 3505' Mud Wt. 9.2  
 Top Packer Depth 3531 Drill Collars Run 31 Vis 50  
 Bottom Packer Depth 3536 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3546 Chlorides 3000 ppm System LCM 2#

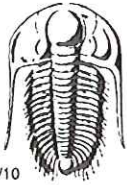
Blow Description FP: BOB / min  
ISI: NO Return  
FP: BOB immediately, GTS IN 18 min. TSTM  
FST: Return Blow, Built to 1/2" decreased to surface blow

Rec	Feet of	%gas	%oil	%water	%mud
60	30	10%	90%		
35	40cm		40%		60%
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud

Rec Total 95 BHT 102° Gravity 30 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1781  Test 1150 T-On Location 15:40  
 (B) First Initial Flow 23  Jars T-Started 15:41  
 (C) First Final Flow 32  Safety Joint T-Open 17:09  
 (D) Initial Shut-In 1117  Circ Sub T-Pulled 19:24  
 (E) Second Initial Flow 26  Hourly Standby T-Out 21:14  
 (F) Second Final Flow 39  Mileage 45 RT 69.75 Comments Gas does burn.  
 (G) Final Shut-In 1125  Sampler  Ruined Shale Packer  
 (H) Final Hydrostatic 1725  Straddle  Ruined Packer  
 Shale Packer  Extra Copies  
 Initial Open 15  Extra Packer Sub Total 0  
 Initial Shut-In 30  Extra Recorder Total 1219.75  
 Final Flow 30  Day Standby MP/DST Disc't  
 Final Shut-In 60  Accessibility

Sub Total 1219.75 Our Representative [Signature]



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51479

Well Name & No. R. BERENS unit #1-8 Test No. 7 Date 2-17-13  
 Company DNOC Elevation 1973 KB 1968 GL  
 Address PO BOX 1019 Hays, Ks. 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery 4  
 Location: Sec. 8 Twp. 16S Rge. 17W Co. Rush State Ks.

Interval Tested 3546-3564 Zone Tested Aebuckie  
 Anchor Length 18' Drill Pipe Run 3503 Mud Wt. 9.2  
 Top Packer Depth 3546 Drill Collars Run 31 Vis 50  
 Bottom Packer Depth 3564 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3616 Chlorides 3000 ppm System LCM 2#

Blow Description IF: BOB, 3min.  
ISI: WEAK ~~blowback~~ surface blowback  
FP: BOB 7min  
FSL: Very weak surface blowback, died in 14 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>540</u>	<u>Water</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 540 BHT 113° Gravity \_\_\_\_\_ API RW .285 @ 52° F Chlorides 36000 ppm

(A) Initial Hydrostatic 1795  Test ← 1150 T-On Location 09:47  
 (B) First Initial Flow 51  Jars \_\_\_\_\_ T-Started 10:24  
 (C) First Final Flow 184  Safety Joint \_\_\_\_\_ T-Open 11:52  
 (D) Initial Shut-In 817  Circ Sub \_\_\_\_\_ T-Pulled 13:52  
 (E) Second Initial Flow 200  Hourly Standby \_\_\_\_\_ T-Out 16:05  
 (F) Second Final Flow 284  Mileage ← 45RT 69.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 808  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1746  Straddle ← 600  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 30  Day Standby \_\_\_\_\_ Total 1819.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1819.75

Approved By \_\_\_\_\_ Our Representative [Signature]

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